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Soap

SALES-WINNING AROMATICS

The value of the aromatics you use in your soaps can be judged by their effectiveness in creating sales. That means that the odors must not only be attractive and up-to-the-minute in style, but also of a character that keeps its freshness and charm.

The value of Givaudan aromatics can be judged by the growing number of soap manufacturers who are using them to create sales—and to hold the customers who buy their products. Our staff is always ready to give you expert cooperation in adapting the never-ending supply of new and interesting aromatics that are brought forth by Givaudan research.

Givaudan

DELAWANNA, INC.
80 FIFTH AVENUE, NEW YORK, N. Y.

and Sanitary Chemicals

THE RIGHT GRADE SOLVES YOUR PROBLEM!

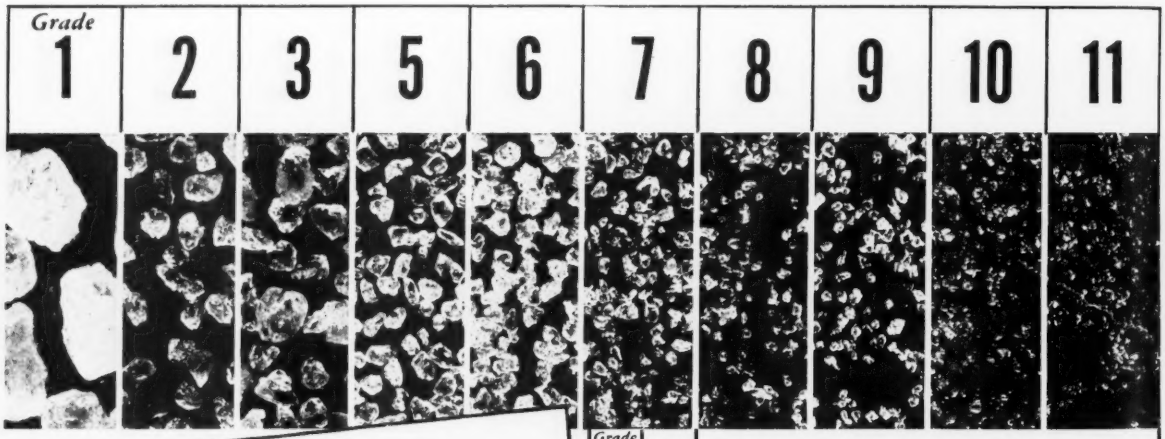
A plant manager advises that he was running a high percentage of rejected blocks at the press and also at the end of the packaging line. A check-over of blocking machines showed their equipment to be performing as it should . . .

A Solvay Technical Service man solved their difficulties —and cut down rejections—by recommending the *right size* of Solvay Para-dichlorobenzene for the blocking pressure of the machines.

One of these ten illustrated, uniform grades of Solvay Para-dichlorobenzene will solve either your manufacturing or repackaging problem . . . one of these ten grades will look best in your particular transparent package, or will sift better in your particular sifter top can. Use the right size! It solves packaging as well as marketing problems—makes your package sell better.

Try Solvay Service. *It's on the job!* You may have good, sound technical advice if you require it—and prompt shipment of all your orders *all the time!*

SOLVAY
TRADE MARK REG. U. S. PAT. OFF.
PARA-DICHLOROBENZENE



YOU CHECK THE GRADE • • • WE DO THE REST!

We will promptly send you a sample of the grade you check off . . . send you complete information on Solvay Para-dichlorobenzene. If you are uncertain of your requirements, our technical staff will gladly advise you on the selection of the most efficient grades for meeting your particular needs.

Grade	
1	7
2	8
3	9
5	10
6	11

SOLVAY SALES CORPORATION
Alkalies and Chemical Products Manufactured by The Solvay Process Company
40 RECTOR STREET NEW YORK, N. Y.

Gentlemen: Please send me a sample of the grade of Solvay Para-dichlorobenzene I have checked off, along with complete information.

*Name*_____

*Company*_____

*Address*_____

*City*_____ *State*_____

AJ-10

Dealer's Choice

No established name or trade-mark binds the leading dealers to Fuld products under private label. They choose them on quality and salability.

"MASHEEN" New DE-GREASER

Masheen is the new heavy duty solvent for cleaning grease-caked machinery and other greasy surfaces. Without agitation this harmless penetrating solvent makes grease and dirt water-soluble to rinse clean under the hose. Interests automotive and shop trade and leading dealers who sell them.

High and Low PINE OIL Disinfectants

The new range of Fuld's Pine Oil Disinfectants (from 2 to 5 coefficients, F. D. A.) are made under our own exclusive method of manufacturing control which develops a higher germ-killing efficiency at a lower cost.

Vitozone DROP-BLOK and DROP-LOK DEAL

Among perfumed deodorants, our new deal is your ace in the hole—and remember, there's a hole in every urinal drain. The low combination price allows you to give a porcelain Drop-LOK Urinal Strainer FREE with each set of theft-proof deodorant fillers.

"SWISH" Dry-Cleaning Solution for PAINT

In a show-down, Swish wins. It picks up dirt, grease and dust in one swift swish and leaves the paint fresh, clean and streakless. Swish eliminates the need for sloppy rinsing. It's the new thing in cleaning-up and the clean-up thing in sales.

Selling.. Jobbers ONLY!

DEODORANT BLOCKS
LIQUID DEODORANTS
LIQUID CLEANERS
LIQUID SOAPS
OIL SOAPS
INSECTICIDES
DISINFECTANTS
SELF POLISHING WAXES
PASTE WAXES
POWDERED WAXES
FLOOR SEALS
FLOOR TREATMENTS
METAL POLISHES
FURNITURE POLISHES
PLUMBING SPECIALTIES
SPECIAL CLEANERS
SOAP DISPENSERS
DEODORANT BLOCK HOLDERS

702-710 SOUTH WOLFE STREET BALTIMORE

FULD BROS

SALES OFFICES: SEATTLE • KANSAS CITY • SAN FRANCISCO • BOSTON
METROPOLITAN NEW YORK OFFICE: 127 TROUTMAN ST., BROOKLYN, N. Y. TELEPHONE: EVergreen 8-2498

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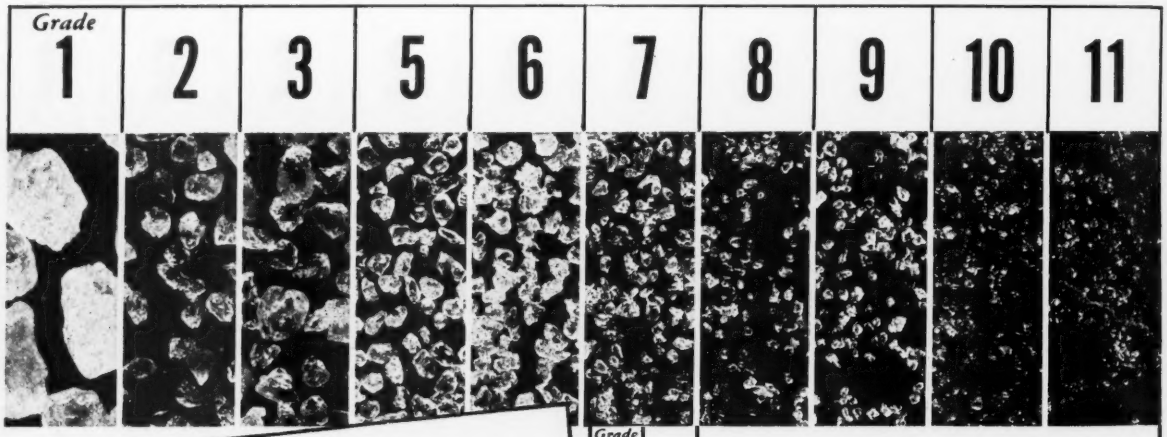

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METROPOLITAN NEW YORK OFFICE: 127 TROUTMAN ST., BROOKLYN, N. Y. TELEPHONE: EVergreen 8-2498

CLEAN UP PERFUME PROBLEMS WITH FELTON'S

Javonella

PERFECT FOR PERFUMING

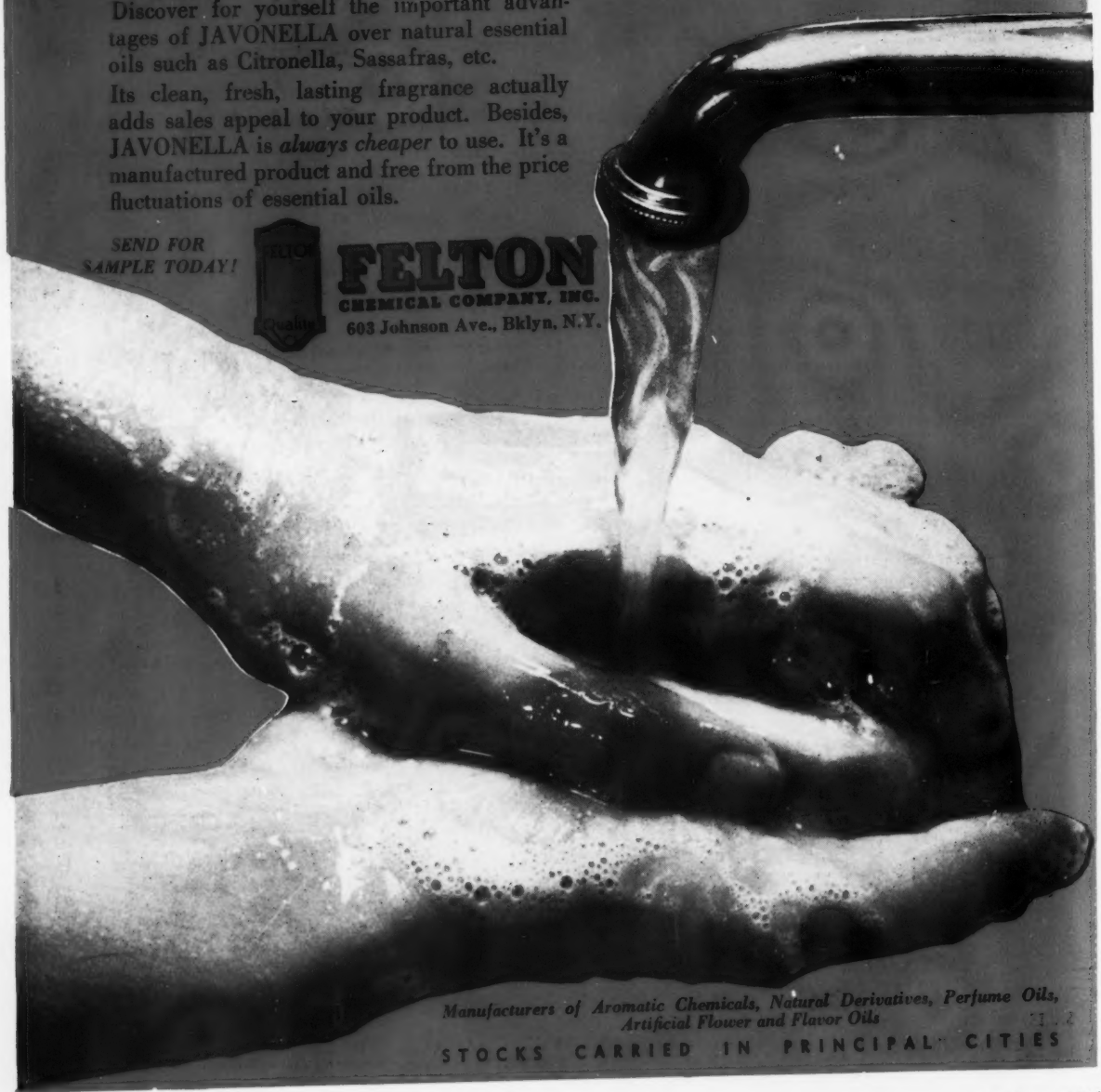
★ Laundry Soaps
★ Liquid Cleansers
★ Washing Powders
★ Polishes, etc.

Discover for yourself the important advantages of JAVONELLA over natural essential oils such as Citronella, Sassafras, etc.

Its clean, fresh, lasting fragrance actually adds sales appeal to your product. Besides, JAVONELLA is *always cheaper* to use. It's a manufactured product and free from the price fluctuations of essential oils.

SEND FOR SAMPLE TODAY!

FELTON
CHEMICAL COMPANY, INC.
603 Johnson Ave., Bklyn, N.Y.



Manufacturers of Aromatic Chemicals, Natural Derivatives, Perfume Oils, Artificial Flower and Flavor Oils

STOCKS CARRIED IN PRINCIPAL CITIES

Soap and Sanitary Chemicals

Volume XIV
Number 10

OCTOBER
1938

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YOUR LINE

Now it is possible for you to build up a sales following with products identified exclusively with YOUR NAME!

Buy the Clifton Quality Line and repack it under your own name. Our attractive labels and leaflets will stimulate your sales into the Profit Division. (The Clifton Line has been doing just that for wide-awake jobbers since 1914.)

And our prices must be quoted to be enjoyed.

featuring

★ **QUALITY**
★ **PRICE**
★ **SERVICE**

CLIFTON CHEMICAL CO., INC.

246 FRONT STREET NEW YORK, N. Y.

Semi-Castile Liquid Soap
Foamwel Liquid Soap
Liquid Soap Base
Liquid Soap Dispensers
Cresolene Disinfectant
Bar Oil

Pine Scrub
Deodorizing Sprinklets
Oil Soaps
Mopping Varnish
Rubless Wax

Furniture Cream
Insect Killer
Coal Tar Disinfectant
Pine Disinfectant
Theatre Spray

SOAP

How to perfume advantageously and economically!

THE RIGHT WAY | AT THE RIGHT PRICE

These four perfume oils are recommended for your entire line of soaps because of their exceptional character. They have been performance-tested with uniformly satisfactory results in the perfuming of Hand Soaps, Milled Soaps, Toilet Soaps, Liquid Soaps, Shampoos and Soapless Shampoos.

COLONIAL BOUQUET M M & R
Has that "certain something" that appeals to men. A clean top-note odor with truly amazing staying power. Check coupon for sample. **MEDIUM PRICE**

BLUEBELL BOUQUET M M & R
Delightful odor of the fragrance of lilacs. Greatly concentrated for economy and possessed of extraordinary lasting quality. **MEDIUM PRICE**

These four perfume oils fall into two distinct odor classifications. There is a medium and low-priced perfume oil of each type.

SALEM BOUQUET M M & R
Of the general "mannish" character of Colonial Bouquet but very inexpensive. Designed for the low-priced line of soaps. Highly concentrated,—lasting. **LOW PRICE**

BLUESTONE BOUQUET M M & R
Flowery, fresh and of a decided lilac character. It approximates Bluebell Bouquet but is recommended for the moderately priced line. **LOW PRICE**

To obtain FREE TESTING SAMPLE, send the coupon at the right. Let us know your particular requirements, our perfuming experts will be only too glad to offer you the advantages of their long experience in perfuming soaps.

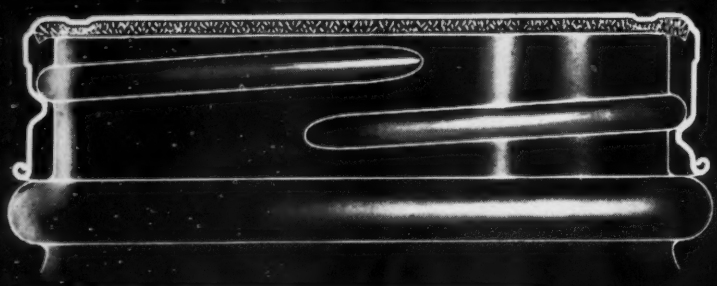
MAGNUS, MABEE & REYNARD, INC.
16 Desbrosses Street, New York, N. Y.
I'd like a testing sample of the perfumes checked below.
☐ Colonial Bouquet M M & R ☐ Bluebell Bouquet M M & R
☐ Salem Bouquet M M & R ☐ Bluestone Bouquet M M & R
Name .....
Firm Name .....
Address .....

MAGNUS, MABEE & REYNARD, INC.
QUALITY ESSENTIAL OILS, BALSAMS AROMATIC CHEMICALS, ETC...SINCE 1895
16 DESBROSSES ST. NEW YORK, N. Y.

NEW CHICAGO OFFICES — 180 NORTH WACKER DRIVE • TALMADGE B. TRIBBLE, General Manager

Good Caps! Good Glass!

THE KEY TO SUCCESSFUL PACKAGE MERCHANDISING



CANDIDATES FOR SALES — A representative group of diversified drug and toiletry products, sealed with Anchor Improved C. T. Caps. Their differing characteristics are evidence of the efficient protection these closures afford; the packages themselves indicating the design possibilities for creating attractive and effective packages, aided and abetted by the good looks of the caps.

THE ANCHOR IMPROVED C. T. CAP

HOME RUN — Anchor's Improved C. T. Cap scores a four-bagger over all other screw type closures . . . reaches first base on its ease of application, rounds second due to the sure, more positive sealing, clears third because of its easy removal, and crosses the plate by virtue of its neater, finer appearance. Many features contribute: the engineered thread with its abrupt start, accurate pitch, controlled length and contour made to conform with the glass thread; the scientifically designed clearances; straight sides; fine knurling...are but a few of the improvements that took years of research and experiment to develop. We call your particular attention to the fact that the thread contact is on the *under* side of the glass threads (clearly shown in the diagram above) which makes for sure and uniform sealing pressure, as well as facilitating removal.

PLAIN FACTS — Here we show the different types of Anchor Caps using the Anchor Improved C. T. thread construction—styles for jars as well as bottles; No Knurl Caps with plain tops and without knurling, with either wire edge or inturned edge; Shellback Caps in circle, star and plain designs; Deep Screw Caps for large containers. Any one of these styles can be had in various sizes and of course need not be plain, but may be coated or lithographed in appropriate designs and colors for greater sales appeal, to provide added advertising value, to carry instructions on use of the product, for providing trade-mark and brand publicity.

PREMIUMS . . . FOR XMAS — Can you visualize a handsomer, more appealing premium than this Anchor Hocking Console Set...only one example of our hundreds of attractive sales-promoting premium items. Plan an aggressive holiday promotion this year—either a gift package that includes your product or a separate premium offer. You'll find Anchor Hocking glassware ideal . . . universally acceptable, impressive in appearance, surprisingly economical.

PLUS 53 — The six Square Tablet bottles shown below have 53 brothers . . . a good illustration of the completeness and extent of the Anchor Hocking lines of glass containers . . . built to meet every conceivable need. These square styles, so popular with many pharmaceutical houses, come in 59 sizes in all, ranging from ½ oz. to 64 oz., and are available in either crystal or amber.

AMMONIA OVALS — No ordinary bottles these, even though their shape be standard, for in whatever shape you find Anchor Hocking glassware you can rely on its quality . . . that the glass will be clear and brilliant, that it will be evenly distributed, that the containers will be strong and sturdy, accurate, uniform and dependable.

Anchor Hocking

ANCHOR HOCKING GLASS CORPORATION, Lancaster, Ohio. CONTAINER DIVISION

ANCHOR CAP and CLOSURE CORPORATION, Long Island City, N. Y., and Toronto, Can. CLOSURE DIVISION

NOW AVAILABLE!

PHOSPHOSOL

(Tetra Potassium Pyrophosphate)
A NEW PHOSPHATE COMPOUND OF EXTREMELY HIGH SOLUBILITY

CLARIFYING AGENT

DETERGENT AID

WATER SOFTENER

EMULSIFIER

Monsanto, foremost supplier of phosphates, now offers Tetra Potassium Pyrophosphate, trade-named PHOSPHOSOL, for commercial use.

PHOSPHOSOL is a phosphate compound possessing calcium and magnesium dispersion characteristics combined with unusual emulsifying properties. Similar to Tetra Sodium Pyrophosphate, it has an added advantage in its high water solubility index. It is particularly suitable as a clarifying agent for liquid soaps and shampoos, and useful in the manufacture of degumming oils for silk hosiery, textile oils, soaps and other products.

Your request will bring a sample of PHOSPHOSOL for experimentation, as well as complete information and prices.

Also:

Phosphoric Acid
Tetra Phosphoric Acid
Phosphorus Pentoxide (dry P_2O_5)
Mono Sodium Phosphate
Di Sodium Phosphate
Tri Sodium Phosphate
Tetra Sodium Pyrophosphate
Acid Sodium Pyrophosphate
Ammonium Phosphates
Calcium Phosphates

Monsanto Chemical Company
St. Louis, U. S. A.
New York • Chicago • Boston • Birmingham • Charlotte • Detroit
Los Angeles • San Francisco • Montreal • London

FOR DISTINCTION

These three decorations represent the highest military distinction in the world.

●

To achieve distinction for your product, to make it stand out from the others, seek the counsel of our perfumers who have successfully made this their business for many years.

VAN AMERINGEN ~ HAEBLER, INC.

315 FOURTH AVENUE, NEW YORK CITY

"Let it go, Sonny. About as much chance of finding that ball as there is of finding a speck of dirt in a carload of Niagara

Carbonate of Potash"

P.S. You'll find that Niagara Caustic Soda and Caustic Potash are exceptionally pure, too.

Niagara
ALKALI COMPANY
42nd STREET, NEW YORK, N. Y.

Affiliated with Electro Bleaching Gas Co.
Pioneer Manufacturer of Liquid Chlorine

We recommend the following for use in Soaps, Fly Spray Deodorants, Air Purifiers, etc.

These are exceptional values—Odors which are infinitely finer than the price would indicate.

Spice, No. 2861	$ .66 per lb.
Lily of the Valley, No. 2862	1.10 per lb.
Lilac, No. 2863	.72 per lb.
Jasmine, No. 2864	.66 per lb.
Incense, No. 2865	1.05 per lb.
Rose Geranium, No. 2866	1.21 per lb.
Mimosa, No. 2867	.61 per lb.
Eau de Cologne, No. 2905	1.93 per lb.

Samples on request.

THE UNIVERSAL FIXATIVE

A synthetic pure chemical. An alcohol which contrary to other fixatives which are almost exclusively esters, is absolutely stable in the presence of acids and alkali, whereas the esters saponify at higher temperatures.

Arosol is therefore a very good fixative in compounds for cold stirred soap. It is particularly valuable in Eau de Cologne or lemon type odors. It is an excellent solvent for the artificial Musks. Comparative tests against Benzyl Benzoate, Benzyl Alcohol, DiEthyl Phthalate show remarkable results in favor of Arosol. Use about 10% in your regular compound.

For samples and further details, please address us.

AROMATICS Agfa **DIVISION**

GENERAL DRUG COMPANY

170 VARICK ST., NEW YORK
TRANSPORTATION BLDG., LOS ANGELES, CAL.
1220 W. MADISON ST., CHICAGO, ILL.
907 ELLIOTT ST., WEST, WINDSOR, ONT.

PREPARED FROM THE FINEST MATERIALS AND ENTIRELY FREE FROM ADULTERANTS

PRICE'S *triple pressed* STEARIC ACID is used by leading manufacturers of the finest toilet preparations, shaving creams and toilet soaps. Of guaranteed English manufacture, it is highly crystalline and white in color.
Melting point is 130°-133° Fahrenheit.
World famous for its unvarying uniformity in quality.
Packed in slabs of about one inch thickness in double burlap bags with a third protective inner bag forming a muslin liner.

Quotations for carloads or less upon application to exclusive American Representatives:

ORBIS

PRODUCTS CORPORATION

215 PEARL STREET, NEW YORK - FACTORY & LABORATORY, NEWARK, N.J.

CHICAGO
831 N. Wabash Ave.

PHILADELPHIA
610 Brown Building

BOSTON
89 Broad Street

CLEVELAND
15201 Elderwood Ave.

Water Soluble Gums	Waxes	Cosmetic Raw Material	Fruit Flavors
Filter Paper	Stearic Acid	Oleo Resins	Food Colors
Aromatics	Essential Oils	Perfume Bases	Quince Seed
Rice Starch	Zinc Oxide French	Olive Oil	Irish Moss

MANUFACTURED BY PRICE'S OF LONDON, ENGLAND

STILL SPARKLING CLEAR AT 4° BELOW ZERO C.!

TRY this test on the liquid soap you are now buying -- particularly the concentrated (40%) which you are using as a base to produce liquids of lower soap content.

"BUCKEYE" and "GEM" concentrate liquid soaps remain absolutely clear at temperatures below zero C., lending themselves perfectly for use at all temperatures as a base in producing liquids of lower soap content.

Just dilute them with distilled water --- no need whatever for any filtering.

Send for samples and prices. No obligation.

THE DAVIES-YOUNG SOAP CO.
Dayton, Ohio

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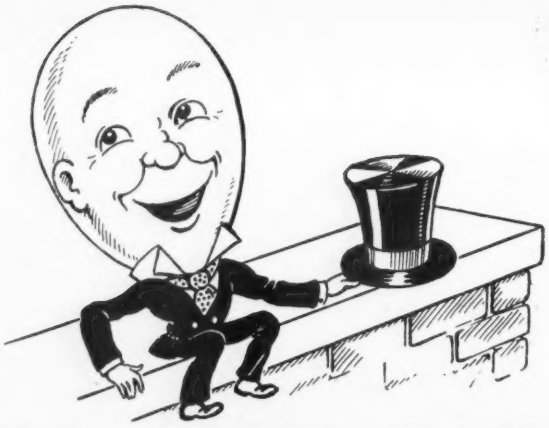
By The Davies-Young Soap Co.



ALL THE KING'S HORSES AND ALL THE KING'S MEN...

. . . couldn't put Humpty together again! So goes the old nursery jingle . . a rhyme that's well worth remembering when you run into the man who buys floor wax "according to specifications".

You know the man I mean. He usually is a large buyer, and make no mistake, he usually knows his business. Having found a wax that most satisfactorily meets his requirements in appearance, durability, waterproofness, etc., he proceeds to have it analyzed by his own or a commercial laboratory.

Armed with a chemical analysis giving complete details as to solid content and many other technical points, he writes up his "specifications for floor wax" . . . and *you* are asked to quote.

The "Joker" in Specification Buying

Undoubtedly this is a highly intelligent way to proceed. But here is the joker. While you can get good specifications from a good wax, the reverse is not always true.

In other words you can't start simply with good specifications and always wind-up with the wax you expect. After all, one of the most important things about a floor wax is how it is going to look on the floor . . . and appearance is not only determined by the various ingredients used, but HOW they are put together!

Next time you, or one of your salesmen, run into a "Specification Buyer," tell him to give you the "HOW" as well as the "WHAT" that goes into the formula, or better yet, tell him to have three different manufacturers make-up a limited amount of wax according to the *same* specifications. You'll prove your point when he sees that none of them are alike . . . when it comes to putting them on the floor!

And that's your cue for bringing in "Bright Beauty" . . . because that's where Candy's Bright Beauty *shines*. Every time you can put Bright Beauty on a prospect's floor . . . alongside even a wax that has already proven "eminently satisfactory" . . . you've practically got an order. That's a pretty broad statement to make, we'll admit, but we'll prove it to your satisfaction any time you will give us the opportunity.

Sold Only by Distributors

Remember, Bright Beauty Products are sold exclusively through distributors. They are packed in attractive containers under your own label . . . never sold direct to the consuming trade (except for experimental accounts in Chicago essential to research). Bright Beauty Wax is competitively priced, yet can be sold so as to allow you a liberal margin of profit. May we send you an experimental sample?

Al Candy, Jr.

CANDY & CO., INC. WAX SPECIALISTS FOR OVER 40 YEARS **2515 W. 35TH ST., CHICAGO**

Paste Wax, Spirit Liquid Waxes, Powdered Dance Floor Wax, Concentrated Cream Furniture Polish, Paste Cleaners, Rug Shampoo

"Did you know American Can has 67 factories and shops?

● That's why they can be so dependable on deliveries, through thick and thin ... and it gives *us* one thing less to worry about."

AMERICAN CAN COMPANY, 230 PARK AVENUE, NEW YORK, N. Y.
World's Largest Manufacturer of Metal and Fibre Containers

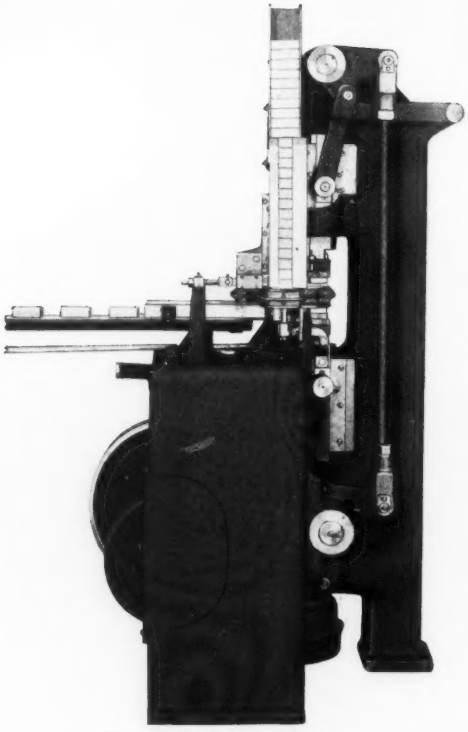
CANCO

. . . competition?

You can't meet it with obsolete manufacturing equipment.

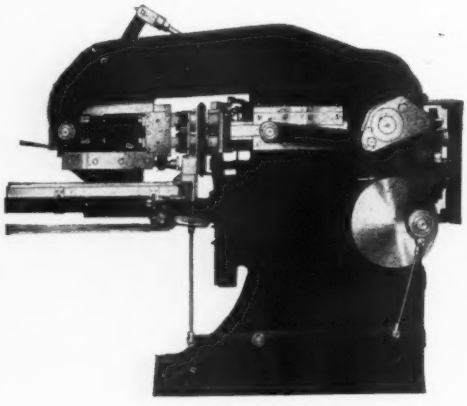
IF your presses are worn and obsolete, they cannot do a 1938 pressing job. You can avoid costly pressing, — and eliminate marred cakes, — by replacing each old press in your factory with a

JONES
Toggle Operated
PRESS



Type ET Toilet Soap Press

WITH JONES New PRESSES you can obtain the best pressed soap ever produced, — either toilet or laundry. Good looking soap is vitally important in meeting competition, — in fact, 1938 competition in the soap industry demands 1938 methods of manufacture.



Type K Laundry Soap Press

JONES New Toggle Operated PRESSES do perfect pressing at high speed. They are run to capacity by one person. They operate without noise or vibration, and pay for themselves while they are still as good as new.

Let us tell you more about the practical economies of replacing your old presses now with JONES TOGGLE OPERATED PRESSES.

R. A. JONES & CO.

Incorporated

P. O. Box 485 Cincinnati, Ohio

The Standardized *Constant Motion Cartoner* packages, bottles, jars, tins, collapsible tubes and many other articles It feeds, folds and inserts direction sheets and corrugated board liners with the loads.

As the Editor sees it..

BIG BERTHA, a lady elephant domiciled at the zoo in Brooklyn, N. Y., recently was injured in a fall and had to be destroyed. The daily press, — Bertha made the front page for several days,—announced that her carcass had been shipped to a local soap plant. Without knowing Bertha's titer, iodine, or sap value offhand, we cannot appraise her soap kettle virtues, but we would be inclined to wager that in experienced hands, she made a pretty good bar of soap. It does seem too bad that more elephant fat is not available. What a wonderful opportunity for advertising copywriters. But alas, there was only one Bertha.

To compensate for the limited number of Berthas, however, we find that there are other fatty novelties which might pinch-hit for elephant oil. A recent mail brought us an offer of fifty drums of skunk grease,—fatty acid, 20 per cent, a trifle high, we must admit, but withal a novel fat with soap kettle possibilities. Now understand, skunk oil is not new. For close on to a half-century, it has been an item of interest to the drug trade. Its fine aromatic odor, plus a touch of rancidity, has for years enhanced its powers in rheumatism salves. And what an appeal to the old-timers this would have all done up in a bar of soap. Turn a copywriter loose on this, and we could almost guarantee nation-wide attention in ten days,—not to mention especial attention from the well-known Federal Trade Commission.

Truly, times are changing in the world of fats. There is a fat revolution going on,—or else we should switch to scotch. Fatty acids, practically chemical pure, and as white as the driven snow,—fatty acids of almost any conceivable type and titer,—all emphasize the tremendous strides in the chemistry of fats over the past decade. And as we sit back to contemplate this progress, up pops the picture of poor old Bertha in that Brooklyn soap kettle and those fifty barrels of skunk grease. Truly, the soap maker's choice of fats presents an ever widening horizon.

SOAP for shaving serves well enough for men who shave only occasionally, says an advertisement of a well-known shaving cream manufacturer, but the fellow who shaves every day needs something else. And the advertisement goes on to tell about their brushless and soapless shaving cream. It says what a fine rich, soothing cream the product is and that it is not greasy or sticky. Also, it states that a complete departure from the ordinary way of manufacturing a shaving preparation is utilized,—and that there is no soap base, which as we all know is quite common in brushless shave creams.

All this is quite according to Hoyle. But then comes the part where the advertisement,—right after where it states there is no soap base,—says "No harmful alkali is used." Of course, the implication is there that by avoiding the use of soap, the use of "harmful alkali" so essential in the manufacture of the soap, is likewise avoided,—and that any damage which the aforementioned alkali might do to the skin, is completely divorced from the product.

Appreciating that this "harmful alkali" idea is "just advertising" as the dear old public has come to classify such things, we cannot become too excited. However, we do find occasion for a couple of chuckles. First of all, this company has been manufacturing shaving soaps for almost a hundred years with "harmful alkali," and still

does. Second, they recommend washing the face with soap and water before applying their cream. Imagine using a soap made with "harmful alkali" one minute, and in the next, using a product designed to avoid these very harmful effects. If it makes sense, even as "just advertising," we give up.

FOR some years, the plaint has been heard among soapers large and small that the spread between cost and selling price of most soaps has been too small. Particularly has this been true in soap products sold in bulk such as laundry chip, textile soaps, soft potash soaps, and liquid soaps. In the package goods market, there has been less complaint, because obviously the same conditions do not apply. With most bulk soap products, there is little variation in composition from one manufacturer to another. Right along the line, there is more or less standardization of composition, and no escape from a highly competitive marketing situation on that side. As a consequence, most marketing and purchasing attention in these soaps is focused on the price, with the inevitable result that when any change occurs to alter the market, competition sees to it that there is little opportunity for any manufacturer to take advantage in the price column.

Among a number of the bulk soaps, especially where purchases are rarely if ever tested, a limited few manufacturers solve the problem by direct action. They cheat on the soap content. They apparently argue that if the buyer will not pay the price, he will not get the soap. All very simple, but distinctly not a solution. Probably the buyer has invited being cheated by giving all his attention to price, and little elsewhere. Nevertheless, he is a subject for education in soap buying,—not for robbery simply because he is stupid.

As a class, industrial soap manufacturers, it seems, have been accustomed over the past ten years to hair-line margins. They invariably maintain that competitive conditions are responsible for this, and that they have no alternative in the matter. Undoubtedly this is true to a great extent, but it is not the entire reason why they should be guided wholly by competitive prices, and completely ignore their own costs. It is still better to sell ten barrels of soap at a half-cent profit than a hundred barrels at no profit at all. Education? Perhaps blasting would be more to the point in shaking the industry loose from some of its old price figuring habits.

IN THE future channels of distribution, the chain stores and the big department stores are destined to play a larger part, with a steadily decreasing role assigned to direct-by mail houses and to the smaller specialty shops. This is the view expressed by Oswald W. Knauth, president of the Associated Dry Goods Corporation of New York in an address before the Seventh International Management Congress in Washington last month. The changing trend in the social life of the country,—better transportation and easier access to trade centers, a lessening demand for service, and a steadily mounting per capita income in the lower brackets,—foreshadows the lines along which distribution will expand.

But, Mr. Knauth points out, the intervention of hampering legislation may interfere in the case of chain store distribution. Of this, we have already seen a great deal. Every effort has been made to kill off the large chains in various states. That it has been effective in reducing their expansion in some instances, is obvious. That it can have any permanent effect in holding back progress of the chains, is quite doubtful. The changing trend in the distribution of goods to the consumer is a steady glacier-like movement, one which moves with the ever-changing life of the country. We cannot see how any make-shift local legislation, — and anti-chain-store laws are just this, a synthetic prop for the small storekeeper to equalize his merchandising shortcomings, or even the Robinson-Patman Act, —can long resist the pressure which springs directly from the changing lives of over a hundred million people.

Raw Materials for the NEWER DETERGENTS

By Dr. Charles E. Mullin

THIS is the first of a series of articles by Dr. Mullin dealing with the aliphatic alcohols, their sources, recovery, purification, and synthesis. Particular attention is given to the higher fatty group and such other aliphatic alcohols of interest in the manufacture of wetting agents and synthetic detergents.—The Editors.

AS THE parent material from which all of the alcohol type detergents and wetting agents are prepared, the higher aliphatic alcohols, of course, including the higher "fatty" alcohols, are so important that a discussion of the manufacture of these detergent products is hardly complete without at least some consideration of the alcohols themselves.

The compounds or, more generally, the mixtures of alcohols commonly known as the higher "fatty" alcohols are, at present, one of the most important groups for the manufacture of detergent products, and belong to the higher primary aliphatic alcohol series. Although the same, higher "fatty" alcohol is not scientifically correct and is not recognized in the scientific literature, in this particular case it serves the purpose of differentiating this special group of alcohols and their derivatives from certain other higher aliphatic alcohols and their derivatives that are finding use as detergents, wetting agents, etc. For this reason, the scientifically incorrect name, higher fatty alcohols, will be used in the following discussion to distinguish the group of five most commonly-used higher aliphatic alcohols, lauryl, myristyl, cetyl, stearyl and oleyl alcohol from the other higher aliphatic alcohols.

The name higher fatty alcohol is rather new, apparently coming into use about the time that their derivatives came into more or less common use as detergents. It is probably a natural development of two factors: (1) The fact that most of the present alcohols of this particular type used in the manufacture of detergents are prepared from the corresponding fatty acids, or their natural esters; and (2) the fact that the long aliphatic chain or radical of the alcohol compound is identical with that of the corresponding fatty compound (acid or ester) from which the alcohol was, in the case of the synthetic products, prepared. The only chemical change, in the structure of the fatty acid in the process of converting the carboxylic acid or ester into the alcohol, is entirely in the carboxyl group of the acid, which is reduced to a hydroxyl group. No change occurs in the hydrocarbon radical of the fatty acid.

The first of the alcohol type of detergents to achieve prominence was a derivative of the higher fatty alcohol type, a primary or straight-chain, aliphatic, monohydric, alcohol. More recently other varieties of alcohols, as well as some more or less closely related compounds, have been found useful in the preparation of special detergent products. In consideration of more recent research and patents, it appears that certain other high-molecular alcohols may also prove very interesting as detergents.

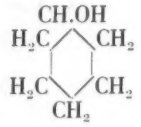
The word alcohol is defined by Couch, in "A Dictionary of Chemical Terms," as "Any one of a class of organic substances (compounds) derived from the aliphatic hydrocarbons by the substitution of one or more hydroxyl groups for an equal number of hydrogen atoms, except that in rare cases only and only where modifying constitutional influences are present, two hydroxyl groups or more are never united to the same carbon atom. The alkyl residue of the alcohol may be farther substituted by aromatic nuclei, as in benzyl alcohol, $C_6H_5CH_2OH$, thus forming the alcoholic derivatives of the carbocyclic series but the alcoholic hydroxyl can never be directly united to a carbon atom which is a member of the aromatic ring. ***

"Alcohols are classified, 1st, according to their content of hydroxyl groups as monoatomic, diatomic, triatomic, etc., or monohydric, dihydric, trihydric, etc., depending upon one, two, three, etc., hydroxy groups of alcoholic character; 2nd, according to the environment of the carbon atom to which the alcoholic hydroxyl is united as primary, secondary, or tertiary.

The "'Chemical Age' Chemical Dictionary" states that "In general, alcohols are compounds containing a hydroxyl group directly attached to carbon, but the term is restricted to those compounds in which the OH group shows certain characteristics, but the division is not a sharp one. The carboxylic acids, for example, contain OH linked to carbon, but are in no sense alcohols; and the phenols, in which the OH is attached to a nuclear aromatic carbon, although possessing some of the properties of alcohols, are not usually classed as such. The alcoholic

hydroxyl has many properties in common with the hydroxyl of the inorganic bases (hydroxides). ***

"The secondary alcoholic OH may be attached to a cyclic carbon as in menthol, borneol, cyclohexanol, etc.:



"The radicals R_1, R_2, R_3 may contain other characteristic groups; e.g., double or triple bonds, giving unsaturated alcohols, such as alyl alcohols, CH_2:$CH.CH_2OH$; keto groups, giving keto alcohols (ketols); carboxyl groups, giving alcohol acids (hydroxy acids); and so on.

"If two alcoholic hydroxyls are present, the alcohol is termed dihydric; e.g., *a*-propylene glycol, $CH_3.CH(OH).CH_2.OH$. If there are three OH groups, the alcohol is trihydric; e.g., glycerol, $CH_2OH.CHOH.CH_2OH$. Alcohols containing several OH groups are classed as polyhydric."

The above indicates that quite a number of higher aliphatic alcohols are possible and, in truth, a great many of them occur in natural products. In addition to the natural alcohols, many others were synthesized long before the alcohol type of detergents came into general use. More recently, since the commercial success of the alcohol type of detergents, researchers have directed more attention to the alcohol or organic hydroxy compounds, with the result that we now have an ever-growing group of natural and synthetic higher aliphatic alcohols of many and widely varied types.

Although the aromatic alcohols or phenols are almost always considered or classified as entirely different from the aliphatic alcohols, in the case of detergent compounds, many of the aromatic alcohols, phenols, find use in the manufacture and compounding of wetting, detergent and emulsifying agents but, on account of the number of hydroxy compounds of the two somewhat different types, and their difference in constitution and properties, the phenols will be discussed in a separate paper.

A complete discussion of the occurrence, synthesis, recovery, properties, etc., of even the higher aliphatic alcohols would fill many volumes, so that it is obviously impossible to cover this subject completely in the present papers, which will be limited to a few of the high spots and a consideration of the more recent patents, etc., covering the recovery, purification, and synthesis of the various higher aliphatic alcohols.

As indicated in some of the earlier papers, it was at first believed that the only alcohols of interest for the manufacture of detergent compounds were those of the primary, monohydric, aliphatic type, the higher fatty alcohols, and that even this group was more or less limited to those members containing an even number of carbon atoms and not less than twelve carbon (lauryl alcohol), or more than eighteen carbon atoms (stearyl or oleyl alcohols), in the hydrocarbon chain or radical. It was believed that the secondary and other branched-chain alcohols were either useless or of little value in the preparation of detergent and similar compounds. More recently it has been found that at least some of the more complex aliphatic alcohol compounds do have a definite value as detergents and wetting agents, and whole groups of detergent products of this, more complex, type are now on the market.

The Higher "Fatty" Alcohols

TO those who are familiar with the situation, there was nothing particularly new in the proposal, a few years ago, to use the sulfates and sulfonates of the so-called higher fatty alcohols as detergents. Many years ago some researchers were interested in the preparation and detergent properties of the various higher fatty alcohol sulfates and sulfonates. Undoubtedly, this research would have gone much farther at that time *if* the higher fatty alcohols, the parent products from which these derivatives are prepared, had been available at that time at a price which would have permitted their use as industrial detergents.

Although many of the higher fatty alcohols are found in natural products, practically all of them, with the exception of cetyl alcohol, C_{16}, are usually present only as traces, or in such small amounts as to render their recovery from these natural products both difficult and expensive, impractical from the standpoint of commercial detergents.

It was then, and still is, possible to synthesize the higher fatty and many other alcohols, but, until a few years ago, the methods whereby these synthetic alcohols were prepared were too expensive to consider for the manufacture of commercial detergent products, all of which are in direct price competition with our old and reliable fatty acid soaps.

The one thing that appears to be new, in connection with the recent development and wide or general use of the higher fatty alcohol derivatives as detergents, is the production of the necessary parent alcohols themselves by the direct reduction of the corresponding fatty acids, or their natural or synthetic esters, by hydrogenation in the presence of certain catalysts and under controlled temperature and pressure conditions. Although the writer is not a specialist on hydrogenation and has not made any special study of the early patents and literature in this field, this development appears to be new. The one sure thing is that the commercial application of this hydrogenation process, on a large scale, gave us the first adequate supply of most of these higher fatty alcohols at a price which will permit the use of their sulfuric acid derivatives, sulfates and sulfonates, on a large scale in detergent processes, in more or less competition with soap and other detergents.

Natural Sources of Alcohol

AT the present time, all of the higher fatty alcohols and their derivatives in common use in the detergent industry are mixtures. As manufactured and used, they are strictly mixtures of more or

less closely related alcohols. In some cases, it is doubtful whether the main constituent alcohol, from which the technical mixture derives its name, constitutes more than half of the total weight of alcohols present in this mixture. The rest of the mixture consists mainly of alcohols containing nearly the same number of carbon atoms, some with more carbon atoms, some with a smaller number of carbon atoms, along with, in some cases a mixture of both saturated and unsaturated alcohols, hydrocarbons, fatty matter, impurities, etc.

The exact composition of the mixture will vary with the source of the natural or synthetic alcohol, the method of recovering the natural alcohol, purification if any, etc. As a general rule, the technical alcohols are not purified before they are treated (sulfonated or esterified) to give the desired detergent, so that the same mixture largely carries through to the finished product. In fact, for most detergent uses, there is no reason to incur the extra expense of purifying the technical alcohol mixture recovered from the natural source or synthesized.

The most widely used technical alcohols are lauryl (C_{12}), cetyl (C_{16}), stearyl (saturated (C_{18}) and oleyl (unsaturated (C_{18}). In every case, these are mixtures, the exact composition varying more or less with the source, the exact mixture of fatty acids or esters used for hydrogenation, method, apparatus and care used in their synthesis or recovery, etc.

With the exception of the cetyl alcohol, the higher fatty alcohols are not present in large amounts in natural products. However, they are present, as traces, in many natural products, either as the alcohols themselves, or as their esters, particularly in the natural waxes, fats, fatty and essential oils, in the latter case among the sterols or unsaponifiables.

Of the five technical higher fatty alcohols in common use in the manufacture of detergents, lauryl, or dodecyl alcohol (C_{12}) is the lowest member. That is, it contains the smallest number of carbon atoms. Lauryl alcohol does not occur widely in nature, or is present only in very small amounts. This is indicated by its rarity in the chemical literature except as a product of synthesis. Some of the most likely sources of the natural alcohol would be in the unsaponifiable portion of coconut oil, kusu oil, lauryl oil and myrtle wax or bayberry tallow. The synthetic compound is prepared from lauric acid.

Neither does myristyl or tetradecyl alcohol (C_{14}), from natural sources, occur very often in the literature, but if present at all, we might expect to find it in sterols or unsaponifiables of the vegetable oils, fats or butters from members of the *Myristica* group, for example, nutmeg or mace butter, kombo fat, ochoco fat, etc.

Cetyl or hexadecyl alcohol (C_{16}) is the principal alcohol in spermaceti, in which it occurs combined with palmitic acid. It is also present in sperm oil and has been found in the sebaceous glands of ducks and geese and in the liquid wax from the "castor oil" fish. Much of the cetyl alcohol used for the production of detergents is recovered from spermaceti and sperm oil. It is also probably present, in smaller amounts in certain other waxes, oils and fats. The synthetic product is prepared from palmitic acid.

Stearyl or saturated octadecyl alcohol (C_{18}) is also found in spermaceti, but in much smaller amounts than cetyl alcohol. It is also present in rump gland wax. It is not recovered, commercially, as stearyl alcohol, from any of its natural sources. The commercial alcohol is produced synthetically from stearic or oleic acid.

Neither is oleyl or unsaturated octadecyl alcohol (C_{18}) recovered from natural sources, although it is present, with cetyl alcohol, in sperm blubber oil. It has also been identified in the oil of the "castor oil" fish. The synthetic product is prepared by the selective hydrogenation of oleic acid.

Sperm Oil and Spermaceti

THE principal sources of spermaceti are the head cavities and blubber of the sperm and bottlenose whales, but it is also found in some other fish oils. Crude sperm oil contains about eleven per cent of spermaceti.

The main constituent of spermaceti is cetin, cetyl palmitate, but other esters are present. For example, stearyl alcohol is also found in spermaceti. Very probably other alcohols, as well as fatty acids other than palmitic acid, are also present. A total of from 49 to 54.27 per cent of total alcohols has been reported in spermaceti.

Sperm oil occurs in the head cavities and blubber of the sperm whale. Aside from the cetyl alcohol known to be present in sperm oil, other alcohols are believed to be present, as would be expected, but most of them have not been identified. Oleyl alcohol is believed to be among those present. The percentage of total alcohols reported present varies somewhat, figures of 37 to 44.3 per cent have been given.

The higher fatty alcohols were very little used in the industries prior to their commercial production by the hydrogenation process, probably largely due to their high cost. Cetyl alcohol is the principal exception, and was mainly used in the compounding of cosmetic, toilet and pharmaceutical preparations, Most of the other higher fatty alcohols were used only in the manufacture of their esters or other derivatives, such as their amines, mercaptans, etc., and certain cation-active compounds. Even these found very little use, probably in part due to their high cost. Both the alcohols and their esters found some use in a few special products, particularly in the blending of synthetic flower oils, perfumes, etc.

(The next paper of this series will review the patents covering the recovery of the various higher aliphatic alcohols from their natural sources. Later papers will cover the synthesis of the aliphatic alcohols.—The Editors.)

BENTONITE

. . . the case for colloidal clays in the field of detergency is presented

By W. B. Hirschmann and Paul Bechtner

American Colloid Company

SOAP was unknown to the ancients until the second century A.D. In its stead, they used *creta fullonia*, a sort of marl or clay, supplemented by an alkali,—a carbonate of soda which came from Macedonia and Egypt. Clothes were washed in the usual way by hand and after drying, were hung over a basket-like frame and bleached with sulfur fumes. To be smoothed, they were placed in a press worked with screws.

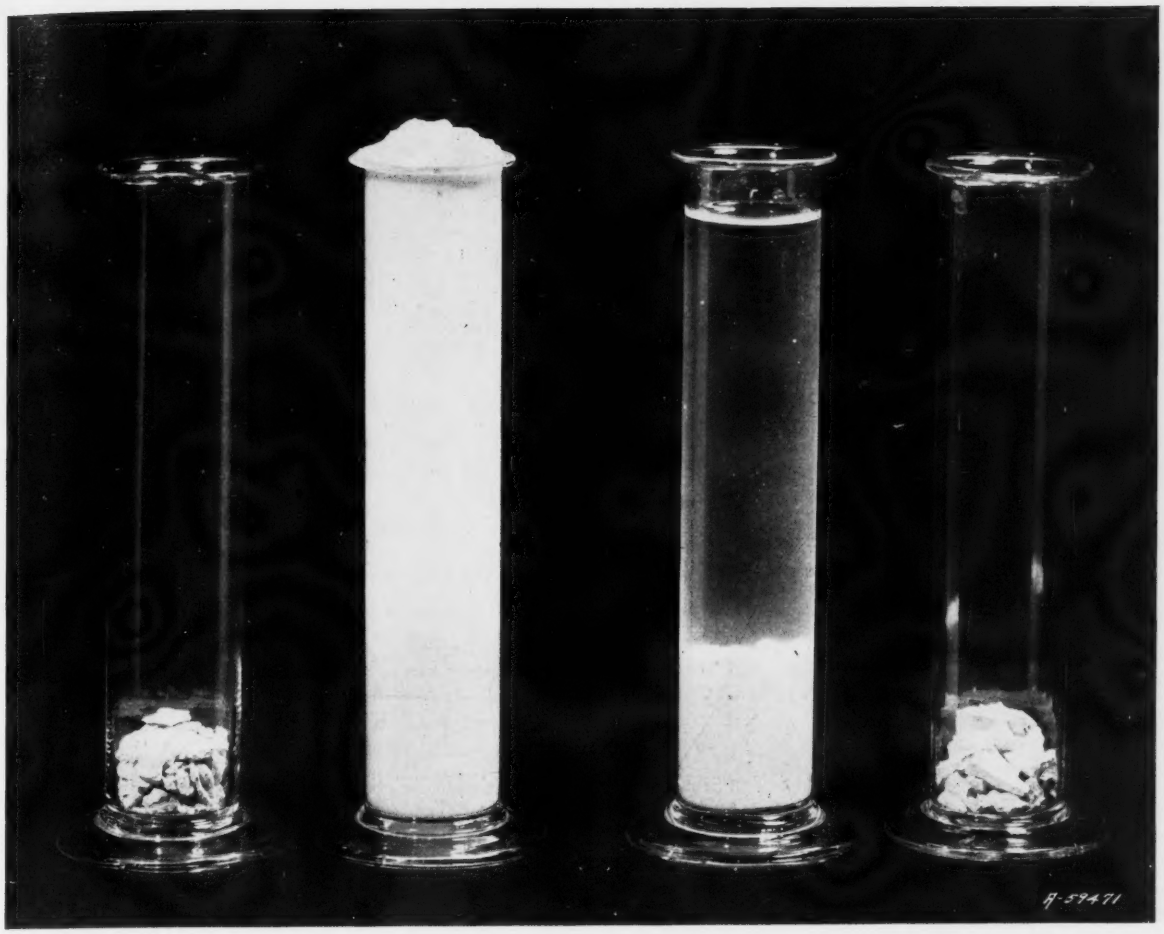
Even in those times, washing was an industry. The washers themselves were called fullones, and the "laundries," fullonica. (An interesting wall of paintings has been found on the ruins of a fullonica uncovered at Pompeii, picturing the workers at their tasks and the utensils and materials they used. The fullones of Rome in particular were a privileged class licensed to do laundering and banded together in a guild which acquired the exclusive right of mining the fullonia that was used in their work. The guild was mandatory in its rules and prices, which were enforced by law and other means, and it grew to be strong politically. One of its members, L. Apustius Fullo, became a consul of Rome in the year B.C. 226, and his son was elected adelile of the plebians. Other members of this gens were prominent in political and military affairs for centuries.

These items indicate that clays were the cleansing agents of early civilizations. In various forms, they continued to be used as detergents for centuries. Replacement of clays by soap was slow, but by the 8th century, many soap factories were in operation in Italy and Spain. It is interesting to note, however, that 500 years more elapsed before the manufacture of soap was begun in France, while the first factory in England was not established until the 14th century. Fuller's earth, as it came to be known, continued in high esteem for washing purposes, and was long used for cleansing woolens and fine dyed goods. Even up to the beginning of the 18th century, Fuller's earth was used as a cleansing medium in baths "by persons of the highest distinction."[2] This was doubtless due in part to the crude methods of soap manufacture which resulted in a very inferior product.

Although clay was largely supplanted by soap, its use for washing was never completely abandoned. From 1865-1880, a fuller's earth soap was sold on the English market. Since the turn of the century, numerous patents have been issued for varieties of soaps and detergents utilizing clays. During the war, the shortage of fats in Germany led to the manufacture of clay soaps. E. G. Acheson, the American scientist, secured a patent in 1922 for improving the colloidal properties of china clay or kaolin for incorporation with soap stock.[3]. However, while these facts indicate the value of clay as a cleansing agent, it has been a second choice to soap and not used unless soap itself were not available. This has been due largely to the moderate efficiency of ordinary clays.

In the last decade, though, new types of detergent clay have attracted considerable attention. Its historical record goes back to 1873, when a Canadian geological report tells of finding a light colored clay, having a soapy feel and possessing detergent properties, and which was "used by the women at the fort for washing blankets."[4] A few years later another report says "this clay serves the Indians as a substitute for soap."[5] For many years it was called "clay soap." It is now known as Black Hills or volclay bentonite.[6]

That briefly is the story of clays in washing operations from ancient to modern times. The long use of the early detergent clays shows that they had some effectiveness for cleansing, but how and why they worked, was not scientifically explained until recent times. It is now recognized that detergent materials cleanse because of their colloidal action, and that bentonite is an effective detergent because of its highly developed collidal properties. (See footnotes 11 and 12.)



Showing the action of different clays in water. Two left cylinders show bentonite before and after adding water, illustrating water absorption and extensive swelling to a firm gel. Two right cylinders show how ordinary clays act in water, little absorption or swelling.

The chief ones which function in washing are:

Polarity—the negative charges which its particles have in alkaline solution, and by which they attract oppositely charged soil (carbon) and carry it away.

Emulsifying Ability—the power to make oils mix with water.

Suspended Capacity—the ability to keep particles from settling out of solution.

Other miscellaneous functions will be discussed later.

Fuller's earths, china clays and kaolins contain a small measure of these necessary attributes, some more, some less, but not enough to continue them in general use against the highly developed modern soaps and other excellent detergent aids. Black Hills bentonite, however, is more colloidal than other known clays. Its particles are so small that it would take more than 1000 billions of them to dot a surface one inch square. Such extreme fineness gives them an enormous surface area, by virtue of which they possess a great capacity for sorption. Because of this, they acquire negative charges in alkaline solutions and form thick pastes which have a slick, soapy feel. It is these properties, which cause bentonite to remove and suspend dirt and oils.

Briefly, soil consists of two types: solid matter, such as soot and dirt; and liquid matter, as oils, greases and perspiration, which bind or hold the dirt to objects. Washing or cleansing consists in removing these two types of soil, and is commonly done with soap and alkalies. Bentonite possesses properties of both these detergents as follows:

Corresponding Functions of Alkali and Bentonite: Alkali neutralizes acids, which otherwise would chemically decompose soap and make its ineffective; softens water, by precipitating water-hardening salts so less soaps is needed; and improves the efficiency of soap by lowering its surface tension.

Bentonite reacts with acids, both by virtue of its mildly alkaline nature and its sorption capacity; softens water by its zeolite base exchange action and consequently does not form precipitates which can be deposited on the clothes; and improves the action of soap by forming a stronger suds.

While alkali impairs the strength of fabrics and etches glass

and metals, bentonite has no deleterious effect on any of these. In hard water, bentonite and alkali both increase the lather made from a given amount of soap.

Corresponding Actions of Soap and Bentonite: Soap creates a suds, which floats away the soil; bentonite forms gels, which perform the same service. The ability of bentonite to carry particles of solid matter in aqueous suspension is one of its outstanding characteristics, widely used in other commercial processes as oil-well drilling, polish manufacture and hand soap production.

Soap and bentonite both emulsify oil and grease, mineral as well as vegetable. The use of bentonite as a standard emulsifying agent for insecticides, paints, polishes and a large number of other commercial products is already large and steadily growing. It is perhaps the favorite and most widely used stabilizing agent for preparing asphalt emulsions. Such compositions made with it are much more stable to chemical and physical changes than comparable ones made from soap.

Soap holds carbon or dirt in suspension by its deflocculating or wetting action (which is also the cause for its sudsing.) Bentonite also holds dirt in suspension because of its polarity, by which each microscopic particle of it picks up a similar speck of dirt, keeps it in suspension, prevents it from coagulating with other specks, and carries it away from the article to be cleaned. This unusual property of bentonite has resulted in its success in clarifying wines to give them a brilliant and permanent sparkle,[7] washing (de-inking) paper to produce reusable sheets, and purifying water[9, 11] and sewage.[10]

Soap produces pedesis (Brownian movement) in the oil particles which assists in loosening them.[12] The ultra-microscopic particles of bentonite also exhibit Brownian movement and impart this motion to the soil particles.

In addition to these correspondences, there are other similarities between bentonite and soaps and alkalies. The modern alkalies are prepared so as to show a minimum degree of caking on standing. Bentonite has no tendency whatever to lump in barrels. In fact it is mixed with many deliquescent chemicals to inhibit their caking.

It is well known that alkali is difficult to rinse. So also is improperly used soap. For example, pouring dry soap into a hot wash wheel causes it to cake on the surface, and using incompletely softened water results in the formation of calcium soaps, which are notorious for their "graying" effect on clothes, due to inability to rinse completely. Formerly, bentonite was subject to the same difficulty. It was difficult to mix with water and clots containing dry material adhered to the fabrics, resisting removal and clinging so tenaciously to the wash wheel that they plugged up the holes. To eliminate these troubles, bentonite was frequently blended with chemicals which assisted it to mix with water. Unfortunately, they also decreased its colloidal properties, and impaired its washing efficiency. New forms of bentonite, however, have eliminated these difficulties.

Soap, alkalies and a proper grade of bentonite all mix readily with water. An additional parallel is that once the dirt is loosened, they all prevent its re-deposition.

WHILE bentonite possesses some of the properties of soaps and alkalies, there are also some which it lacks. The main ones are the capacity of alkalies for saponifying oils and greases, and the wetting or surface-tension-lowering ability of soap. The importance of these properties is such that bentonite is seldom used except in combination with one or the other, or both, and in this way parallels the combination use of soap and alkali for making built soaps. In such combinations, each substance adds its properties to the whole, and also improves the action of the others. The absence from bentonite of some of the properties of soap and alkalies is compensated by the presence of other unique qualities peculiar to itself.

Sorption: In contrast with soap and alkali, bentonite is highly sorbent. It has a great capacity for attracting and holding dirt, both solid and liquid, especially soils of an oily, greasy and carbonaceous nature. This characteristic is sufficiently pronounced that government scientists have described bentonite as having "the greatest efficiency for adsorption that nature ever seems to have devised."[13] It is this property which gives bentonite its "drawing power" and makes it a favored material for face packs and mud baths. Its effect is such that if used repeatedly in the dry form without first being made into a mud with water, it not only removes the dirt on the skin, but also the natural oils, and causes dried, cracked skin.

Polarity: Bentonite particles carry negative charges which are intensified in alkaline solutions. They consequently attract oppositely charged soil particles. Carbon, one of the main constituents of solid soil, is positively charged in alkaline solutions. Accordingly, it is attracted by the bentonite, held dispersed and carried away. This unique property is illustrated by the use of bentonite for de-inking paper. Alkali emulsifies the oils that hold the carbon inks to the pulp and permits them to be loosened. When this pulp is run onto the screens for recovery, however, much of the ink is carried along with it to cause spotting and graying with the production of a non-usable sheet. If bentonite is used in conjunction with the alkali, the ink is completely carried away with the water and a clean web of paper results.[8]

In the bentonite processes for clarifying wines, waters and sewage, it functions in somewhat the same way, removing not only the carbon and protein impurities however, but also reducing the iron content.

Base Exchange. Bentonite

(*Turn to Page* 105)

. . . warning!

CAUSTIC SODA

A few practical suggestions particularly in preventing and treating alkali burns in the soap plant

By C. R. Kemp

J. R. Watkins Co.

BURNS from strong alkalis usually prove more serious than is at first expected. With this in mind, it is desired to make perfectly clear before anything else that while first aid methods as discussed here have stood the test of time and are approved by physicians with much experience in this work, they are not a substitute for competent medical attention. First aid treatment should be followed as soon as possible by an examination by a doctor. This is practical common sense backed by observations of many years in soap plants where men handle and use caustic soda and caustic potash liquors.

Every precaution naturally must be taken to avoid any contact of liquors with the human body,—that is the most practical step of all in avoiding caustic burns,—but once they do happen in spite of precautions, then proper and prompt medical treatment is the next necessary step. Fixed alkalies destroy organic matter. Strong solutions soften and penetrate the epidermis. Alkali burns are difficult to heal as there is often sloughing and considerable loss of tissue. In accidental internal alkali poisoning, there is usually vomiting and collapse. The danger is far from over when alkali burns have been washed and neutralized.

Let us first see what we can do to prevent accidental contact with caustic soda. Men working with caustic soda should be *fully* clothed. Do not permit rolled-up sleeves, open collars or the like. The clothing should be made of cotton which is much more resistant than wool to the action of strong alkalies. Gloves made of rubber or heavy cotton material should be worn at all times. Rubber or heavy canvas shoes are the best protection for the feet. Properly ventilated and side shielded goggles should be provided for protection of the eyes. A wide brimmed hat for protection of the head and face is also necessary. There should also be located nearby some arrangement whereby a plentiful supply of water is quickly available, such as a shower.

(*Turn to Page* 30)

The same rules of caution apply in the handling of strong acids in the soap plant,—or anywhere else. Opening acid drum,—note garb of workmen and position of bung.

The Buyer Considers

LAUNDRY SPECIFICATIONS

By J. C. Booser

BECAUSE laundries consume large quantities of soap, alkalies, bleaches, sours, bluing and other chemicals, advantageous purchasing of these commodities is a matter of prime importance. Proper application of good specifications is the best means to promote effective and economical buying in the laundry. This statement is based on the experience of an organization which uses approximately $50,000 worth of these products annually.

Several years ago, this organization adopted a program to improve the operation of their laundries. The usual test bundle procedure was used which involves periodic determination of degree of soil removal, amount of whiteness retention, and loss in tensile strength of the fabrics laundered. Concurrent with the adoption of this program it was realized that the procurement of a proper standard of quality in laundry chemicals was necessary so as to eliminate any questionable results that might be obtained in actual operation, and in the test bundles, due to inferior supplies. Accordingly a group of specifications, covering all of the so-called laundry chemicals that would be needed, was assembled and applied to the purchase thereof.

The degree of success attained through the use of this procedure was gratifying and certainly is sufficient to recommend its consideration by large laundry units or groups of small units, as a means to better purchase of their requirements. For instance in this particular case, prior to the adoption of the specifications, the laundry supplies were bought under proprietary names whenever each individual unit sent in a requisition to the central purchase office. This resulted in hundreds of small orders which complicated and run up the cost of purchasing, and also prevented effective inspection and test of deliveries. A system of scheduled group buying four times each year corrected this condition. This entire plan has been in operation about two and a half years with only minor changes and its marked success is due to a large extent to the group of specifications described herein. Besides performing their fundamental function of describing the required standard of quality and means of determining same, the application of these specifications effected an appreciable savings in the cost of the supplies. Their use was also instrumental in uncovering numerous cases where the wrong kind of material was being used.

For brevity this group is presented in skeleton form showing usage, requirements, and test procedures or references where feasible.

Washing Compounds

Two kinds are specified one for use in cold water the other for hot water. These are designated herein as 1 and 2 respectively.

No. 1

Use: For laundering colored cotton fabrics in soft or hard water at temperatures between 70° F. and 120° F. when the presence of alkaline salts is not objectionable.

Requirements: The compound shall consist of a low titer, rosin-free, soda soap, and alkaline builders in the proportions specified.

	Minimum %	*Maximum %*
Real soap	58.0	66.0
Alkaline salts such as sodium carbonate trisodium phosphate, etc.	18.0	26.0
Volatile matter including moisture	——	16.0
Residue retained on 20 mesh sieve	——	8.0
Material passing 170 mesh sieve	——	15.0

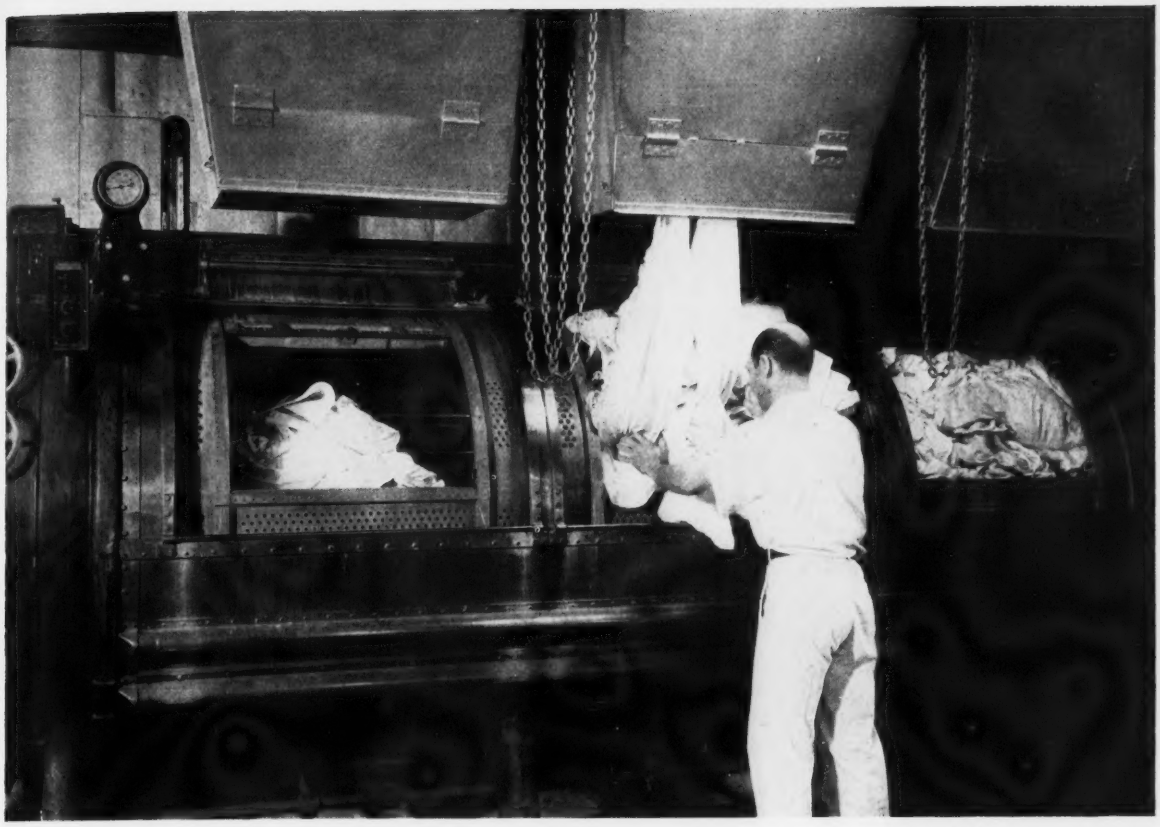
Note: The soap and alkali content are calculated on the basis of 10% *volatile matter at* 105° C. *in the finished compound before the above percentage restrictions are applied.*

The titer of the mixed fatty acids prepared from the soap shall not exceed 25° C.

The compound shall be of a light color and free from disagreeable odor. There shall be no separation of the constituents and it shall be free from dirt or any other foreign matter.

The soap used in the compound shall equal in sudsing power, soil removal and rinsing characteristics a good grade of olive oil soap.

Sampling and Testing: Shall be done in accordance with current methods of The American Oil Chemists' Society where ever applicable. Note: The sudsing power and the soil removal and rinsing characteristics of the soap is determined on a representative sample of the soap used, before it is incorporated in the compound. The determination is made in a small laundry wheel equipped so that all conditions can be reproduced exactly from test to test. A run is made on standard soil



pieces, using a definite load, with a certain amount of the soap under examination. Observations are made on amount of sudsing and rinsing characteristics and the degree of soil removal accurately measured. A duplicate run is made with a standard olive oil soap and the results carefully compared.

Use: For laundering white cotton fabrics in soft or hard water at temperatures in excess of 140° F. when the presence of alkaline salts is not objectionable.

Requirements: The compound shall consist of a high titer, rosin-free, soda soap, and alkaline builders in the proportions specified.

	Minimum %	*Maximum %*
Real soap	58.0	66.0
Alkaline salts such as sodium carbonate trisodium phosphate, etc.	18.0	26.0
Volatile matter including moisture	—	16.0
Residue retained on 20 mesh sieve	—	8.0
Material passing 170 mesh sieve	—	15.0

Note: The soap and alkali content are calculated on the basis of 10% volatile matter at 105° C. in the finished compound before the above percentage restrictions are applied.

The titer of the mixed fatty acids prepared from the soap shall be not less than 39° C.

The compound shall be of a light color and free from disagreeable odor. There shall be no separation of the constituents and it shall be free from dirt or any other foreign matter.

Sampling and Testing: Shall be done in accordance with current methods of The American Oil Chemists' Society.

Water Softeners and Soap Builders

These materials are used to soften the water supply if the hardness exceeds three grains per U. S. gallon. In some instances operators prefer to purchase soap and builders separately instead of in the form of a prepared washing compound, thus these specifications perform a dual purpose. Admittedly there are more materials in this classification than those covered by the following specifications, however in this particular group of laundries this selection was found to be complete and satisfactory up to the present time.

Borax

Use: This material is intended for use as mild detergent in laundry practice. It is not suitable for medicinal purposes or any other instance where the U.S.P. grade is required.

Requirements: The material shall be a technical grade of borax in granular form. It shall be free-flowing and shall contain no dirt, wood chips or other foreign material.

The borax ($Na_2B_4O_7.10H_2O$) shall be not less than 99.0%. There shall be no residue retained on a No. 20 sieve and at least 75% of the product shall be retained on a No. 70 sieve.

Sampling and Testing: The methods for borax and the water softeners and builders in this group

were assembled from various sources and are too lengthy to include in this presentation. In general suitable methods can be found in the well-known texts on chemical analysis by Scott, Griffin, and Treadwell-Hall. It must be borne in mind however that methods so assembled should appear in the specification, or else a reference should be made to a source that is easily available otherwise the vendor is handicapped and apt to err in submitting bids.

Soda Ash

Use: As a water softener and soap builder in laundry practice.

Requirements: The soda ash specified herein shall be the anhydrous sodium carbonate in powdered form known to the trade as "58% soda ash." Two types are covered "light" and "extra light."

The total alkalinity after drying one hour at 150-155° C. shall be not less than 58% calculated as Na_2O which is equivalent to 99.2% sodium carbonate (Na_2CO_3).

The soda ash shall be free from hydroxide and bicarbonate.

Water insoluble matter shall not exceed 0.25%.

Loss in weight on heating at 150-155° C. for one hour shall not exceed 1.0%.

The volume of the "light" soda ash shall be from 55 to 65 ml. for 30 grams. The "extra light" from 73 to 87 ml. for 30 grams.

Not over 0.5% of the soda ash shall be hard lumps that will not pass a No. 4 sieve (opening 0.187").

Sodium Bicarbonate

Use: Intended primarily as a water softening agent in laundry practice where it is desired to keep the alkalinity in the treated water at the lowest possible amount.

Requirements: The material shall be a technical grade of sodium bicarbonate containing not less than 99.5% $NaHCO_3$.

The water insoluble matter shall not exceed 0.1%.

The sodium bicarbonate shall be a dry, fine, white, free-flowing powder, free from dirt, wood chips, and any other foreign matter.

Laundry Soda (Washing Soda)

Use: A so-called "balanced" water softener and detergent for the laundry.

Requirements: The laundry soda shall be a white powder composed of sodium carbonate and sodium bicarbonate. It shall be free-flowing and free from dirt, wood chips, and any other foreign matter.

The sodium carbonate (Na_2CO_3) content shall be not less than 39.0% or more than 45.0%.

The sodium bicarbonate ($NaHCO_3$) content shall be not less than 40.0% or more than 58.0%.

Total alkalinity calculated as Na_2O shall be not less than 39.0% or more than 43.0%.

Water insoluble matter shall not exceed 0.1%.

Trisodium Phosphate

Use: As a detergent and water softener in general laundry practice.

Requirements: The material shall be a technical grade of trisodium phosphate. It shall be a white uniform, finely granulated product, free from dirt, wood chips, or any other foreign matter.

Additional requirements are as follows:

	Minimum %	*Maximum %*
Trisodium phosphate as $Na_3PO_4 12\ H_2O$	95.0	——
Phosphoric anhydride (P_2O_5)	17.7	——
Total alkalinity to methyl orange as Na_2O	15.5	20.0
Matter insoluble in water	——	0.1
Residue on a No. 10 sieve (0.0787" opening)	——	None
Residue on No. 100 sieve (0.0059" opening) ...	50.0	——

Note: Specifications for various soaps, bleaches, sours, bluings, etc., will be discussed in the next issue.—Ed.

Warning—Caustic Soda!

(*From Page* 27)

fountain or even a hose, but preferably all of them, because caustic soda must be washed off immediately.

Caustic soda solutions should always be unloaded or conveyed in pipe lines, either by gravity, pressure or pump and never carried in open containers. It is also advisable whenever it can be done to clear caustic pipe lines by flushing with water rather than blowing with steam or air. Treat alkali solutions everywhere as dangerous, corrosive substances.

In first aid treatment, immediate action is necessary in all cases. Remember also that the person to be treated may be suffering from shock also, and avoid anything apt to aggravate this condition.

Eyes: The eye should be first flushed with plenty of clear water. Then neutralize any caustic present by flushing out the eye with either a one per cent solution of zinc sulfate or a five per cent solution of boric acid. Flush again with clear water and apply sterile mineral oil or low melting point vaseline. Cold applications will also assist. Further treatment should be left to a physician.

Ears and Nose: Apply the same treatment as in the case of injury to the eyes except that a two per cent solution of zinc sulfate may be used.

Mouth: The treatment is practically the same as above unless the person has swallowed the caustic. For internal poisoning give vinegar, or juice of lemon, grapefruit or oranges copiously, and follow with olive oil. Call a physician at once.

Skin: Burns of the skin require similar treatment. Wash thoroughly with water, neutralize with two per cent solution of zinc sulfate or five per cent solution of boric acid. Wash again with water and apply vaseline. If swelling is present, then apply cold compress to relieve.

Paste a copy of these instructions inside the first aid cabinet or book,—and have the first aid materials handy and in readiness *at all times.*

Familiarity breeds contempt,—but only a fool treats strong caustic alkalies with contempt. The wise workman holds them in complete respect, and realizes that they are dangerous caustic and corrosive poisons,—and that "an ounce of prevention is worth a pound of cure."

Wood floor in a printing ink laboratory requires frequent and thorough scrubbing. But which soap?

POTASH SOAPS *for Wood Floors?*

By Wilbur M. Kelso

President, Green Oil Soap Co.

WHEN it comes to scrubbing hardwood floors and other wooden flooring, shall it be a potash soap or an ordinary soda soap or scrubbing compound? Considerable potash soap is sold every year and a good proportion of it goes for cleaning wooden and other floorings, and also in washing various other forms of woodwork. Now potash soap costs more money than a corresponding soda soap,—so why is it worth more money, if it is? Some of the reasons given for the superiority of potash soaps in floor maintenance are quite commonly known. Others are not so well known, and this accounts for a brief investigation into a somewhat different phase of the subject.

According to the records of the Chicago Historical Society, a pile driven into the bed of Lake Superior is practically free from rot and decay, maintaining its original strength and appearance indefinitely, while an identical piece of piling similarly placed in the waters of Lake Michigan, will rot away and have to be replaced in a very few years. It is further noted that pieces of driftwood thrown upon the beaches of these two lakes also display these same characteristics. The pieces thrown upon the beaches of Lake Superior are hard and solid, almost petrified, while those on the beaches of Lake Michigan are usually spongy and rotted.

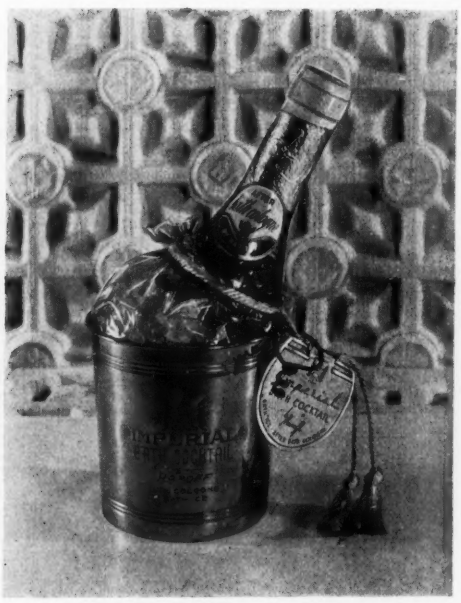
Although no exhaustive search has been made to determine the exact reaction and no comparative decay records have been kept, research has been carried to the point where an explanation of the phenomena can seemingly be made. When the waters from the two lakes mentioned were analyzed, it was found that Lake Superior water contains a percentage of potassium salts in large excess over the percentage of sodium salts while Lake Michigan water shows barely a trace of potassium salts and a preponderance of sodium salts.

All woods contain more or less potassium as the main element of their mineral constituents, and the sodium contained in the Lake Michigan water evidently replaces this combined potassium causing a breakdown of the inner structure of the wood, resulting in decay and rot. In the case of Lake Superior water, there being little or no sodium to

(*Turn to Page* 103)

New Products

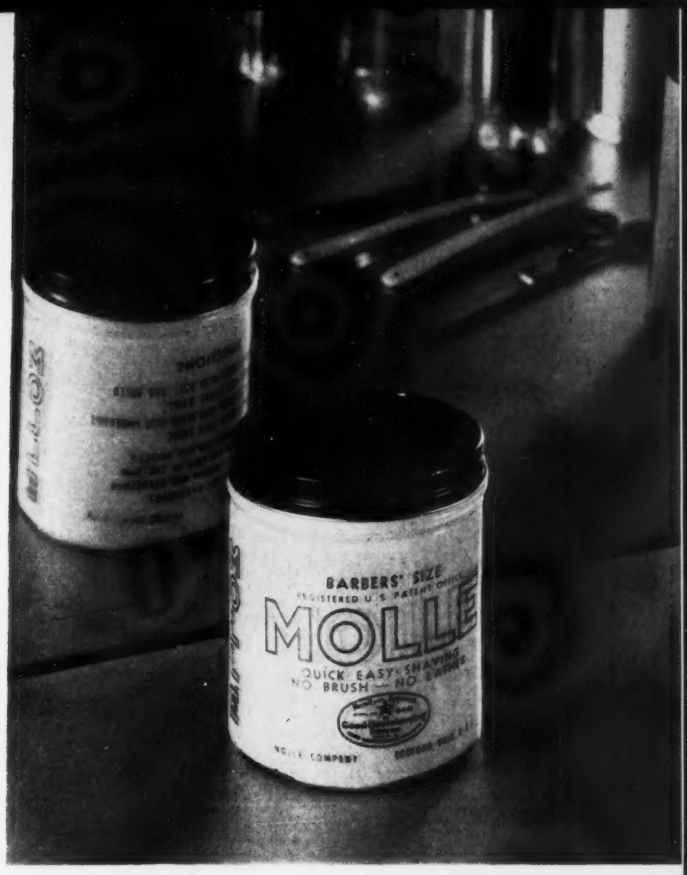
Zonite Products Corp. and Barcelona Sales Co., New York, are currently featuring this combination package. The 5-oz. bottle of shampoo and 6-oz. bottle of "Zonite" sell in the combination package for 59c,—saving the buyer 38c.



This novel package for bath crystals and bath cologne used by Stuart Products, St. Paul, will appeal to the ladies who have ordered their magnums, and to those who wish they could. Crystals of course simulate ice.

Preparing for the holiday trade, Mennen Co., Newark, N. J. is featuring this combination gift box for men. The value of the contents is $1.35, but the combination retails for $1.25. Other larger gift sets are offered at $2.25.

and Packages



A new full pound "barber's size" jar of "Molle" brushless shaving cream is now being marketed by Cummer Products Co., Bedford, Ohio. Colored lettering is fused into the surface of the glass. Jar and label by Owens-Illinois.

Colgate-Palmolive-Peet Co. is offering a larger line of Christmas gift boxes this year,—one of which is this "Palmolive" gift box for men. The assortment valued at $1.20, sells for $1.00.

Hewitt Bros. Soap Co., Dayton, Ohio, recently redesigned the wrappers for its own line of five cent sellers. Attractively lithographed colored wrappers identify the four odors which are available in this soap line, — Carnation, Rose, Pine and Gardenia.

TURNER

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News....

Launch "Sunbrite" Campaign

Swift and Co., Chicago, started their fall advertising campaign on "Sunbrite" cleanser last month with a new weekly radio program over a national network. Extensive advertising is also to be carried in national magazines.

Stevens Joins Stanley

Robley D. Stevens has been appointed sales representative for the John T. Stanley Co., New York soap manufacturers, in the territory covered by Maryland, Virginia, and the District of Columbia. His headquarters are in Baltimore at 1811 Chilton St. Mr. Stevens was formerly connected with the Owens-Illinois Can Co., Baltimore Division, and a few years back formerly represented Stanley in the Philadelphia territory. Mr. Stevens who has been a collector of autographs of famous people for some time, is the author of a book on the subject called "Great Ink Stains" which is now being published.

Brillo Earnings at Peak

Brillo Manufacturing Co., New York, reports net earnings of $65,574 for the three months ending June 30th, the largest net earnings for any quarter since 1931. After dividends of 50c per share on the Class A stock, this equals 37c per share on the no par common stock. Comparative earnings for the second quarter of 1937 were only $50,148.

Hold Oakite Sales Meeting

Oakite Products, Inc., New York, held their annual meeting of company sales representatives at the Hotel New Yorker, New York, last month. Frank Connolly, Oakite merchandising manager, was in general charge of the meeting and reported that the extended newspaper advertising campaign which the company has just launched is expected to result in a substantial rise in sales during the coming season. Additional advertising plans were made at the sales

Connolly of Oakite

meeting to coordinate local campaigns with the national drive. Mr. Connolly advised that sales gains made throughout the country were responsible for the company's decision to expand its fall advertising.

To Advertise "Silver Foam"

Silver Foam Granulated Soap Co., Los Alamitos, Calif., has named Howard Ray Advertising Agency, Los Angeles, to conduct an advertising campaign on "Silver Foam."

Offer New Water Softener

Patent Cereals Co., Geneva, N. Y., has just introduced a new cleaner and water softener under the name "Dic-A-Daily." The company also manufactures "Dic-A-Doo" paint cleaner.

Soaper Returns to Japan

Masao Ogawa, representative of the Glycerine Hambai Kaisha, Ltd. of Tokyo, and the Nippon Chisso Hiryo Kaisha, Ltd. of Osaka, sailed from Seattle late in September for the return trip to Japan after a two months stay in the United States studying conditions in the American soap, glycerine and fat industries. During his stay, Mr. Ogawa visited several leading American soap plants and interviewed a number of executives in the industry. A considerable portion of his time was spent in New York and on the eastern seaboard. Both of the companies which Mr. Ogawa represents are cooperative marketing organizations in Japan.

Cleveland Cleaner Building

Cleveland Cleaner and Paste Co., Cleveland, manufacturer of wall paper cleaners, is planning a new building which will be an addition to the present factory at 7275 Neville Ave. Southwest. The new structure will be two stories high, of brick, steel and concrete.

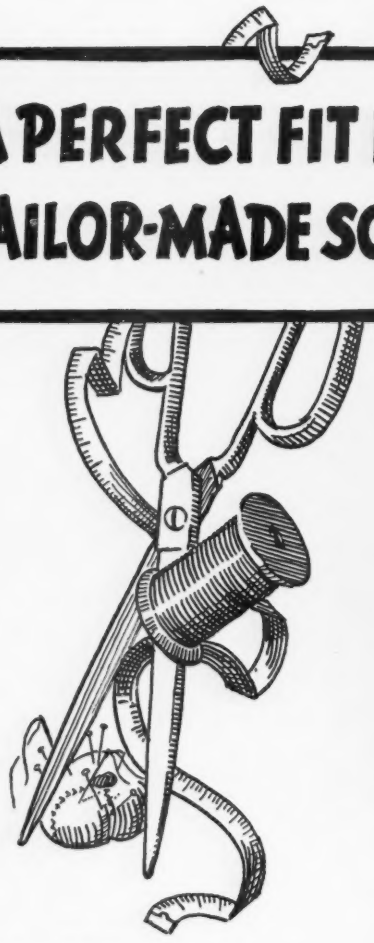
Jersey Laundry Samples Soap

Holland Laundry, Inc., Jersey City, N. J., in a recent advertising campaign mailed to its prospective customers cellophane-packaged samples of the soap it uses. A letter accompanied the same describing the soap as a 100 per cent pure white tallow soap and calling attention to its exceptional mildness and purity.

Names Agency

Twentieth Century Manufacturing Co., Cedar Rapids, Iowa, manufacturer of cleaning compounds, has appointed Paul Grant Advertising Co., Chicago, to handle its advertising account.

A PERFECT FIT FOR TAILOR-MADE SOAPS



SOAP PRODUCTS and detergents for special purposes have a considerable market. Get a large share of it by building your special soaps with PQ Silicates of Soda.

From the PQ line of over thirty different brands, you can depend on obtaining a correct silicate of soda to fit your private formulae. Do you need a liquid silicate, a solid, a powder or soluble crystals? Let us help you select the best for your detergent.

No matter what special detergent characteristics you are seeking—fast wetting, emulsification, buffering, deflocculation — a PQ silicate can furnish them more efficiently and economically.

As the design of cleansers and the specifications of cleansing processes become more scientific, PQ Silicates are more in demand. Our Technical Dept. is ready to assist you in any way it can.

PHILADELPHIA QUARTZ COMPANY

EST. 1831

General Offices and Laboratory: 125 South 3rd Street, Philadelphia.
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P. Q. SILICATES OF SODA

Lord Leverhulme Addresses 7th Management Congress

VISCOUNT LEVERHULME, governor of Lever Bros. and Unilever, Ltd., called for "International Cooperation in Management" in an address before the delegates to the Seventh International Management Congress at the Mayflower Hotel, Washington, September 22nd. He asked for further development through the International Committee of Scientific Management, which he heads, of a "common pool of management experience to which all countries can contribute and from which all may draw." Pointing out that the economic inefficiencies of one country affect the economy of all, he called for substitution of an international point of view in economic affairs for the national attitudes which have previously been characteristic.

"The mechanical evolution of the last century," he said, "has created an economic interdependence between the countries of the world as much as between the individual enterprises within those countries. Whatever the emotional influence of nationalism and territorial sovereignty, the ever-increasing productivity of the machine and the shrinkage of the world through more rapid and extensive communications are facts which alter the economic significance of frontiers, and which combine to produce a situation wherein the effects of a given source of waste can no longer be confined to the country wherein it exists.

"The United States, for example, can no longer expect to escape from the effects of inefficient conditions of production and distribution in Europe; conditions which, quite apart from the degree of efficiency which may be reached by individual units, may yet be inefficient in that the internal conditions of these countries make the maximum consumption of goods and services an impossibility.

"It is consequently to the direct advantage of those countries,

Viscount Leverhulme

which are in a position to contribute most to the world's knowledge of management techniques, to make such contributions as energetically as possible and to facilitate the assimilation of their experience by those countries which have not yet progressed so far on the road to efficient management."

Describing as "striking" the present-day disparity between world consumption of goods and services and the "potential powers of production with which science has now endowed mankind," Lord Leverhulme said that few persons accept this situation as being the result of the progressive application of science. The reason, he said, is that progress has been "unbalanced" and that there has been what he called a "time lag" between technological progress and progress in other departments of human endeavor.

"We recognize," Lord Leverhulme continued, "that the danger of our present situation lies not in the increasing impact of science on our lives, but in the uneven incidence of this impact.

"While productive efficiency has increased and continues to advance with bewildering rapidity, we destroy much of the possible advantage to be derived from this progress by the methods we adopt in our distributive machinery and in our dealings with our fellow-men.

"As long as we continue to believe that the problem must be solved by the artificial creation of scarcity through restricting production, so long will the situation continue to grow worse."

Solution of the problem, according to Lord Leverhulme, depends on the spread of the philosophy of scientific management which implies the adoption of the objective methods of thought and action fundamental in the sciences. As in all sciences, he said, progress in the science of management is achieved through the normal procedure of the scientific methods, including the collection and classification of facts, testing the conclusions drawn from the facts, and the standardization of those methods which facts and experience show to be the best.

"Scientific method is essentially a social activity requiring the highest degree of cooperation," Lord Leverhulme declared, "and it is largely due to the lack of such cooperation more particularly at the national and international levels, that what we call scientific management has not made more rapid progress."

Another speaker at the Congress was Oswald W. Knauth, president of Associated Dry Goods Corp., New York, who called attention to the increase in distribution through chains and large department stores at the expense of specialty shops and direct-by-mail distribution.

"We are moving out of large cities into smaller communities," said Mr. Knauth. "Automobiles, busses, and good roads have lessened the number of isolated dwellings and communities. We have fewer large fortunes, whatever may be the status of medium-sized incomes. Wages are tending towards a larger share of the national income than in the past. Government income, taken from the com-

munity through taxes and distributed to officials in relatively small amounts, is on the increase. The tendency towards greater national and per capita income which had been characteristic of the past century has definitely come to an end, and we are either on a level or on a downward trend.

"All of this will mean a decreased importance of the specialty store; an increase in chain distribution, unless hampering legislation intervenes with artificial restrictions; a lessening of direct-by-mail, either from factory or from a distribution center; an increase in the importance of large department stores at central points having a wide selection of medium-priced goods; a lessening of the importance of location; a decreasing demand for service."

The swing toward use of glass brick in modern construction is continued by Lady Esther Cosmetics in the new Chicago plant designed by Albert Kahn, Inc. Modern decor combines with a flood of interior light.

New Diamond N. Y. Office

Diamond Alkali Co., Pittsburgh, has moved its New York office to 230 Park Ave. in charge of C. V. Douglas, metropolitan representative. Mr. Douglas succeeds J. C. McKenna who was recently appointed assistant manager of alkali sales and transferred to the main office at Pittsburgh. J. D. Mattern is manager of alkali sales. George Cooper is vice-president in charge of sales for Diamond assisted by H. A. Copeland, and F. W. Fraley is director of sales for the company. Mr. Douglas was formerly sales manager for the George Chemical Co., New York.

FTC Checks Watkins Claims

R. L. Watkins Co., New York, manufacturer of "Dr. Lyon's Tooth Powder," is the recipient of a complaint issued by the U. S. Federal Trade Commission charging that the company through its advertising is misleading consumers into believing that "Dr. Lyon's Tooth Powder" is similar in properties and effectiveness to preparations used by dentists, that tooth powders are better cleansing agents than pastes, that "Dr. Lyon's" powder is antacid, is a deodorant, and is more economical to use than competing tooth pastes. The advertised claims, according to the complaint, are untrue.

Oil Trades Fall Outing

The Oil Trades Association of New York held its annual fall outing at Pelham Country Club, New York, on September 20th. Athletic events, including golf, baseball, swimming and bowling, featured the day's program, which began with a luncheon at noon time, and ended with a dinner and distribution of athletic prizes late in the evening. The winner of the Bert Squier Golf Trophy was H. B. Van Cleve, Maritime Petroleum Corp., who shot the lowest net score. Also, winners in the Class A group were: W. R. Cook, Hudson Oil Co., 1st low gross; F. W. Boyd, Service Station Equipment Co., 2nd low gross; and Ernest Schulthess, New York Rubber Corp., 2nd low net. Class B Winners were: K. R. Ware, Sun Oil Co., 1st low gross; R. W. Capps, Zimmerman Alderson Carr Co., 2nd low gross; Maxwell Katz, Town & Country Oil Corp., 1st low net; and J. F. Renick, Renick & Mahoney, 2nd low net. Class C winners were: E. C. Biglow, Sun Oil Co., 1st low gross; Samuel Margolis, First National Oil Corp., 2nd low gross; Samuel Z. Weaver, Weaver & Hugi, Inc., 1st low net; and H. D. Smith, Harry D. Smith Organization, 2nd low net. Guest prize winners in the Class F group were: R. K. Wolfe, low gross, and H. W. Lewis, low net; Class B, J. D. Fleming, low gross, and A. Broder, low net. Winners in the Kickers' Handicap were Samuel Seltzer, 1st; Fred Wolfe, 2nd; F. J. Mahoney and O. G. Jakob, tied for 3rd.

Holland Prefers U. S. Soaps

More than half of the toilet soaps imported into the Netherlands —781,760 pounds during the first half of 1938—were manufactured in the United States. Soap imports as a whole into the Netherlands have, however, shown a substantial decline. During the first half of 1938, a total of 1,428,120 pounds with a value of $213,104 was imported as compared with 1,832,320 pounds with a value of $258,454 imported in the first half of 1937.

New Soap Grain Product

National Brands Sales Corp., Chicago, is preparing to place on the market "Leadway" soap grain, packed by Procter & Gamble Co., Cincinnati. Distribution will be through 24,000 retailers in all parts of the country. As an introductory offer, a Cannon dish cloth will be given with each package. Point of purchase displays will feature the new product.

Correct Char-Tex Error

W. P. Hemenway, general manager of the Char-Tex Sales Co., St. Paul, Minn., writes on Sept. 22 to correct a wrong impression which may have been created by a news item which appeared in the previous issue of *Soap*. Mr. Hemenway's letter states:

"In the September issue of your magazine, "*Soap and Sanitary Chemicals*," we noted a comment entitled "FTC Restricts "Char-Tex." Your comment goes on to state that Ford-Hopkins are manufacturers of Char-Tex, etc.

May we beg to advise you that Char-Tex is manufactured in the Krank Building in St. Paul by the A. J. Krank Company for the Char-Tex Sales Company. The Char-Tex Sales Company has complete exclusive manufacturing and sales rights of Char-Tex.

Ford-Hopkins is a chain store and in their radio program made statements to which the FTC entered objections. We wish that you would please see that this information is corrected as correspondence of this kind may do a manufacturer a great deal of harm. We have more than 2,900 dentists buying Char-Tex by the gallon for use in their offices, and we feel that this is a statement which speaks for itself."

Management Congress Elects

William L. Batt, president SKF Industries, Inc., Philadelphia, was elected president of the International Committee for Scientific Management at the seventh management congress in Washington last month. He succeeds Viscount Leverhulme, head of Lever Brothers Co. and Unilever, Ltd., London, England. Viscount Leverhulme was chosen to serve as a vice president until 1941, the year of the next triennial congress, which will be held at Stockholm, Sweden.

View of the new soap spreader in use which was described in the September issue of *Soap*—a new device for spreading soap powders, scouring powders, etc., over large floor areas in factories, institutions, office buildings, etc.—manufactured by S. C. Lawlor Co., 124 North Aberdeen St., Chicago.

Oil and Fat Price Index

A price index covering quotations on a series of vegetable oils and fats, issued monthly by the Bureau of Raw Materials for American Vegetable Oils and Fats Industries, shows the following situation for August, 1938, as compared with the January figures:

Base or 100 Point Taken as the Average for the Year 1926

	Jan., 1938	*Aug., 1938*
Grease	65.3	63.8
Cocoanut oil	42.8	33.6
Corn oil	69.0	81.7
Linseed oil	93.2	75.4
Olive oil	92.1	75.9
Olive oil foots	107.8	87.7
Palm oil	48.2	38.3
Palm kernel oil	47.9	42.3
Soybean oil	57.3	56.8
Whale oil	91.3	78.5
Stearin, oleo	62.8	67.3
Tallow	69.0	63.1
Cottonseed oil	62.3	67.9
Weighted average	70.7	60.6

Watkins Branch in England

J. R. Watkins Co., Winona, Miss. and Newark, N. J., have recently secured a building in Birmingham, England, which is now being converted into a plant for the manufacture of the full Watkins line of household specialties, insecticides, soaps, etc. It is expected that the branch plant will begin actual operations about the first of January, 1939. Ralph Boalt, general manager of the Watkins Australian branch, spent two months in England recently making the arrangements for the new plant. Mr. Boalt arrived in the United States on October 1 for a short visit. The new English factory will add another branch to the present Watkins groups which includes four plants in the United States, and plants in Canada and Australia.

Indian Soap Imports Declining

Due to the progress made by India's domestic soap industry during the past five years, soap imports into India have declined steadily. The total number of pounds of soap imported in 1936-37 was 5,300,000 as compared with 33,100,000 lbs. imported in 1932-33. The United Kingdom supplies India with more than half of its imported soap, shipping 3,400,000 pounds in 1936-37. Japan ranked second with 800,000 pounds and the United States third with 600,000 pounds.

P&G Folder

Procter & Gamble Co., Cincinnati, recently issued a notice to its stockholders called "Around the World Every Day with Procter & Gamble," showing a map of the world on which were plotted its factories and oil mills, district and field sales offices, foreign agents and export sales office locations.

British Soap Consumption Up

During the past eight years the soap consumption in the United Kingdom and Ireland has increased from 16.5 to 18.6 pounds per capita according to the recent analysis of a director of Lever Brothers, Ltd.

For Convenience

BUY FINISHED ODORS from "D & O"

Our laboratories do the research work—
Avail yourself of the finished result.

Odors created by "D & O"
have been tried and tested
in some of the most successful lines of soap and toilet preparations on the market today.

Our wide experience in this industry enables us to supply you with odors *guaranteed* to meet the popular demand.

Consult our Perfume Materials Department

DODGE & OLCOTT COMPANY

180 Varick Street . . . . . New York, N. Y.

BOSTON : CHICAGO : PHILADELPHIA : ST. LOUIS : LOS ANGELES

Plant and Laboratories . . . . Bayonne, N. J.

D&O
ESTABLISHED IN 1798

Sues P & G on Spray Patent

SUIT was filed in the United States District at Chicago on September 17 against the Procter & Gamble Co. for alleged infringement of the Coltman spray soap patent, U. S. 1,718,778, issued in 1929, asking for an injunction and an accounting, by Bertram W. Coltman of Chicago. This suit follows the recent successful action by Coltman in the U. S. District Court at Indianapolis against the Colgate-Palmolive-Peet Co. Both C-P-P and P & G have for some years past been manufacturing certain spray soap products under the Lamont Patent, No. 1,652,900, and Reissue Patent No. 16,749, according to the statement of the plaintiff, and it is this patent and operations under it which infringe the Coltman Patent. It is understood that an appeal from the Distict Court decision has been filed by Colgate-Palmolive-Peet Co.

The Complaint states that the Lamont Patent, No. 1,652,900 is owned half by Colgate-Palmolive-Peet Co. and half by the Procter & Gamble Co. and that a decision was rendered in favor of Bertram W. Coltman on April 1, 1938 at Indianapolis against C-P-P, and that employees of P & G acted as experts at the trial for C-P-P, and that P & G made financial contributions to the defense and its attorneys aided in the defense. For these reasons, the complaint contends that P & G are bound by the District Court decision at Indianapolis as if it had been a party defendant in that action. A demand is also made for an accounting and payment of damages.

In April, 1937, a decision was handed down in the U. S. Circuit Court of Appeals in an appeal involving the Lamont Patent—a suit by P & G and C-P-P against Lever Brothers Co., which was in litigation for several years previously. The appeals court reversed a decision of the lower court which had found the Lamont Patent not infringed. Following the reversal—the original case took several months to try—it is reported that the Lever interests paid a sum approximating five million dollars, half to each of the two plaintiffs. The U. S. Supreme Court refused to review the case.

N. Y. Soap Flake Sales

THE New York Times recently conducted a survey to measure the comparative consumption by brands and by income area of packaged soap chips and flakes in New York. Sales figures from grocery outlets serving high, medium and low income neighborhoods were obtained. Interviews were scheduled so as to represent a 3.3 per cent cross section of New York City. According to the U. S. Census, there are 15,120 retail food outlets in the city. 14 per cent of which are located in high income neighborhoods, 32 per cent in medium income neighborhoods, and 54 per cent in low income neighborhoods. Thus, in order to follow the same ratio for a 3.3 per cent cross section of New York, interviews were made at 70 stores in high income areas, 160 stores in medium income areas, and 270 stores in low income areas. The table shown tabulates the results.

The distribution of all brands, with but two exceptions in the small size package, is shown to be greater in high and medium neighborhood stores than in the low neighborhood stores. Also, sales are found to be greater in the high and medium neighborhood stores compared with the low neighborhood outlets: the 70 stores surveyed in the high neighborhoods sell more flakes and chips than the 270 stores surveyed in the low neighborhoods, and taken together, the 230 stores in the high and medium neighborhoods sell about three times as much chips and flakes as the 270 stores in the low income area. The survey, therefore, establishes that the most active market for the sale of packaged soap chips and flakes lies in the high and medium income neighborhoods. The high and medium stores represent 46 per cent of all the stores in New York, and account for 75 per cent of the chips and flakes sales. While low neighborhood stores representing 54 per cent of all stores account for 25 per cent of the sales.

Consumption of Soap Chips and Flakes in High, Medium and Low Income Neighborhoods in New York

Compiled From Survey By New York Times, May, 1938

BRAND	HIGH INCOME AREA			MEDIUM INCOME AREA		LOW INCOME AREA		TOTAL	
	No. Stores Surveyed, 70			No. Stores Surveyed, 160		No. Stores Surveyed, 270		500 Stores	
	Package Size Oz.	% Stores Carrying	Sale Per Store Carrying	% Stores Carrying	Sale Per Store Carrying	% Stores Carrying	Sale Per Store Carrying	% Carry	Sale Per Store Carrying
Chipso	8½	27.1	6	27.5	7½	21.9	5	24.4	6
	22	94.3	21	81.3	10½	39.6	5	60.6	11
Fels Naptha Chips	10½	10.0	1	13.8	4	17.4	3	15.2	3
	21	78.6	6	65.0	4	28.1	3	47.0	4½
Ivory Flakes	5	67.1	17	61.3	12	37.4	8	49.2	11
	12½	100.0	41	92.5	15½	48.1	7½	69.6	18
Lux Flakes	5	94.3	21	97.5	17	86.7	11	91.2	14½
	12½	100.0	37½	98.1	17	65.2	8	80.6	16½
Kirkman's Chips & Flakes*	6	11.4	4½	10.6	4½	15.2	5½	13.2	5
	18	88.6	16	68.8	12	40.0	5½	56.0	10½

*Chips and Flakes tabulated together because Kirkman recently changed the name from Soap Chips to Soap Flakes and some stores still stocked the chips.

A pure product totally free from iron and foreign materials

IRON never gets near this superior Terpineol. It is manufactured in iron-free apparatus...aged from three to six months...shipped in aluminum containers. Du Pont Terpineol S. P. does not develop disagreeable odors, for it is absolutely free from oxidation catalysts.

Du Pont Terpineol S. P. is made by a solvent process fully protected by U.S. Pat. No. 2,088,030. This process gives a product of unequalled purity and uniformity. The price is 35c per pound.

Samples and additional information will be sent on request. Write to E. I. du Pont de Nemours & Co., Inc., Fine Chemicals Division, Wilmington, Del.

Hecker Products Net Lower

Hecker Products Corp., N. Y., reports a net profit of $951,401 during the year ended June 30th, comparing with $1,592,440 in the preceding fiscal year. Earnings for the year just concluded equal 52c per share on the common stock as compared with 89c per share in the previous year.

Wrapping Material for Soaps

Wrapping material for soaps is made of viscose coated with a varnish stable to alkalies and impermeable to water, e. g., one having a basis of benzylcellulose, polyvinyl chloride, chlorinated polyvinyl chloride, polyvinyl ethers, polystyrolene, chloro-rubber, and having plastifiers such as chlorobiphenyl, benzylnaphthalene or resins. I. G. Farbenindustrie A.-G. French Patent No. 824,437.

B.I.M.S. Golf Outing Oct. 6

The fifth and final 1938 golf tournament of the B.I.M.S. will be held at the Ridgewood Country Club, Ridgewood, N. J., Oct. 6. Plans had previously been made to hold the outing September 22 but it was later found advisable to select a new date.

P & G Soap Sculpture Awards

Procter & Gamble Co., Cincinnati, has just awarded prizes totaling twenty-five hundred dollars in the fourteenth annual nation-wide competition for small sculptures in soap. An exhibition of the entries and prize-winning pieces was scheduled to open at R. H. Macy & Co., New York, Sept. 19th.

Bulletin on Stainless Steel

Republic Steel Corp., Cleveland, has just released an eight-page folder giving details about some of the applications of stainless and heat-resisting steels in chemical process industries. Illustrations of common applications of stainless steel in jacketed kettles, agitators, tanks, heat exchangers, and similar equipment are shown. Copies can be obtained from the advertising division of Republic Steel Corp., Cleveland, the bulletin number being No. 313.

FTC Checks Kolynos

Kolynos Co., New Haven, Conn., has been charged by the U. S. Federal Trade Commission with misrepresentations in the advertising of "Kolynos" tooth paste. The complaint states that the company represents its product as having antiseptic and germicidal qualities and accomplishing results not possible through use of other tooth pastes, when such representations are misleading.

Joseph Ellis Joins Wilson

Joseph Ellis, formerly with R. & R. Chemical Co., Philadelphia, has just joined the sales staff of Frank E. Wilson, Philadelphia chemical dealers. He will cover the Philadelphia territory. The Wilson organization sells a line of industrial chemicals including alkalis, paradichlorbenzene, and maintenance materials.

Announce "High-Test" Oxydol

Procter & Gamble Co., Cincinnati, has announced a new "high-test Oxydol" for laundry use. The new product is being introduced in a nation-wide newspaper advertising campaign.

Robinson Mixer Catalog

Robinson Manufacturing Co., Muncy, Pa., has just mailed a new catalog illustrating and describing its complete line of mixers and sifters for handling powders, semi-solids and liquids. Copies of the new catalog, No. 32 E, are available to readers of *Soap*.

Monsanto Opens Detroit Office

Monsanto Chemical Co., St. Louis, has just established a district office in Detroit, under the direction of H. P. Walmsley who was transferred from the Cleveland staff to become Detroit district manager. Both a sales and technical staff will work out of the new Detroit office.

Kirkman Test Campaign

Kirkman & Sons are currently running a test advertising promotion campaign in Albany and Schenectady for Kirkman soap flakes. The campaign, which features full page newspaper advertisements supported by store displays and dealer advertising, supplements their regular advertising in this territory. The special drive features a money back guarantee.

Special Deal on "Linco" Bleach

Linco Products Co., Chicago, manufacturer of "Linco" household bleach is making a special offer of a cloth and metal clothesline bag. The bag is given for five "Linco" labels and ten cents, the bag being delivered to the grocer and given by him to the customer.

Cleaning Aluminum

A new method for degreasing and cleaning stained aluminum castings, engine parts, etc., has been announced by the Curran Corp., Malden, Mass., with the use of their self-emulsifying solvent cleaner, "Gunk." The company states that with the new product, grease or carbon stained aluminum can be brought back to silver-white without chemical action on the metal or loss of weight. They are concentrating sales efforts for the new product on rebuilders of used cars, engines, and machinery.

Cleaners to Meet Jan. 16

The 1939 convention of the National Association of Dry Cleaners will be held in Dallas, Texas, Jan. 16-19. Frank B. Slater has been named general committee chairman, with T. E. Millholland as co-chairman.

Detroit Drug Golfers Win

Golfers representing the Allied Drug and Chemists Association, Detroit, defeated members of the Chicago Golf Auxiliary of the association in Chicago last month. The Detroit team won by a comfortable margin. Following the golf match a banquet was given at which prizes were awarded to all golfers who participated in the inter-city matches during the past season.

AN EXAMPLE . . . . to prove that F. B. CUSTOM-MADE SOAP PERFUMES can bring you MORE BUSINESS . . . .

Consider, first, the advantages which are assured soap manufacturers who adopt FRITZSCHE BROTHERS' CUSTOM-MADE PERFUMES:

DISTINCTION . . .

Each fragrance is created for the one customer exclusively—to fit his ideas, his product and his budget. The result: Individuality . . . appealing distinction.

QUALITY . . .

Being composed of carefully selected, first quality raw materials—they're the **only** kind used in F. B. compositions—all skillfully blended, perfume quality is assured.

UNIFORMITY . . .

Modern methods of production and rigid laboratory control enable us to maintain and guarantee the uniformity of our products.

ECONOMY . . .

The advantages of quantity purchases at favorable prices are reflected in the values and economies which we are able to pass along to our customers.

DEPENDABILITY . . .

A sixty-eight year record for integrity and a reputation for standing behind every product bearing our name—these, are the best possible guarantees of dependability.

SATISFACTION . . .

By virtue of the foregoing, F. B. CUSTOM-MADE SOAP PERFUMES can be relied upon to give each user a full measure of satisfaction.

NOW, ADD THEM UP . . . .

AND THE TOTAL IS . . . MORE BUSINESS!

FRITZSCHE BROTHERS, Inc.

PORT AUTHORITY COMMERCE BLDG., 76 NINTH AVENUE, NEW YORK, N. Y.

BRANCH STOCKS

BOSTON CHICAGO LOS ANGELES ST. LOUIS TORONTO, CANADA MEXICO, D. F.

FACTORIES AT CLIFTON, N. J. AND SEILLANS (VAR) FRANCE

A *Fritzsche* PRODUCT for EVERY PURPOSE . . .

- **ESSENTIAL OILS**

  Your basic materials should be the finest that modern methods and scientific skill can produce. In using FRITZSCHE'S Essential Oils you are assured matchless purity and dependability.

- **AROMATIC CHEMICALS**

  Large selection and superlative quality characterize the materials in this group. Use them for finer aromatic effects and for greater economy.

- **FIXATIVES**

  We carry a complete line of fixatives, including Rose Crystals, one of the best all-around fixatives, also a group of Artificial Animal Scents—Musk, Civet, Castoreum and Ambergris—especially adaptable to soap making.

- **ANTI-OXIDANTS**

  These newly developed preservatives for soaps, animal and vegetable fats and oils are highly important to the soap manufacturer. Write us for full details concerning Oxidex.

- **BATH SALT PERFUMES**

  Combining perfume and color, our delightful Bath Perstels greatly simplify and facilitate the process of manufacture. Very economical. Complete information and list of blends will be sent upon request.

- **INSECTICIDES AND DISINFECTANTS**

  All materials offered by us under this heading are the results of years of research applied to this increasingly important phase of perfuming. Selection from the FRITZSCHE catalog assures uniform and unvarying quality of odor.

- **DEODORIZING COMPOUNDS**

  Technical products such as para blocks, naphthalene, cleansers, waxes, polishes, solvents, diluents, etc., require good, dependable deodorizing compounds in their formulae. For effective, low cost coverage we offer and recommend Neutroleum, Safrella, Javollal, Methalate "C", and others.

- **TOILET SOAP COMPOUNDS**

  Perfumes in this group have been specially prepared to meet the exacting demands of soap manufacture. Exquisite scents at a minimum cost. Consult our catalog.

- **LIQUID SOAP AND SHAMPOO PERFUMES**

  These perfumes are highly soluble and mix readily with liquid soaps. Simple to use, cost limits and strength of odor desired determine quantity required.

- **DENTAL AND ORAL FLAVORS**

  These flavors are of a special character, skillfully blended to impart pleasant, clean, refreshing taste effects. We are prepared also to create special flavor blends according to your specifications and for your exclusive use. Consult us freely.

- **SOAP COLORS**

  We supply soap colors to produce any desired tint. Send us description or sample of color to be matched for our specific recommendations.

Organize Bowling League

The Chicago Perfumery, Soap and Extract Association has announced the organization of bowling league of eight teams composed of members of the association. A schedule has been arranged which calls for bowling matches every Wednesday night throughout the season. While the association has sponsored bowling in the past, an increased amount of interest has been shown in the new league. Prizes will be awarded at the end of the season to the teams finishing with the highest standings. R. F. McClellan is president of the league. L. A. Sollo is vice-president, and S. J. Vance, secretary.

P & G Bath Brush Offer

Procter & Gamble Co., Cincinnati, beginning Oct. 3 will extend its bath brush offer to three of its serial radio programs heard on the NBC networks. The offer, consisting of a "Catalin" bath brush for 50 cents plus four "Ivory" soap wrappers, will be made during the programs, "Life Can Be Beautiful," "The O'Neills," and "The Story of Mary Marlin" for four weeks. The offer has been carried by newspapers and magazines since Sept. 10th.

Wants Tooth Paste Agency

A firm in Granada, Nicaragua, is interested in securing an agency for sale of tooth paste of American manufacture. Full details may be obtained by addressing the U. S. Department of Foreign and Domestic Commerce at Washington, D. C., mentioning file number 7705.

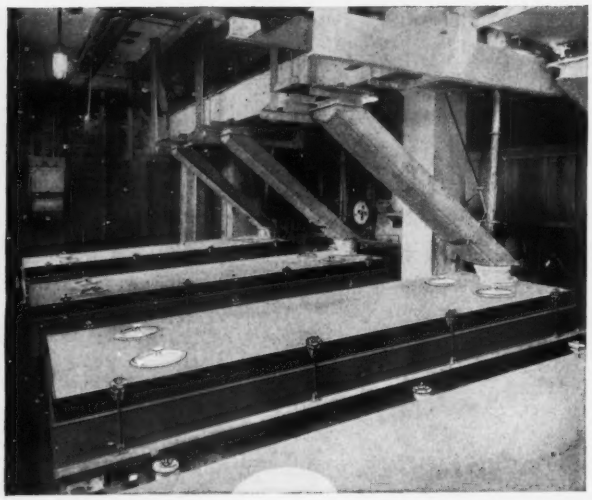
Kirkman Tests New Copy

Kirkman & Son, Brooklyn, have launched a test drive in upper New York State featuring a "money-back test" for "Kirkman Soap Flakes." The new copy is a departure from previous advertising sponsored by the company, in that the usual premium offer has been definitely subordinated. Kirkman dealers are also prominently mentioned in the new test copy.

DAY Ro-Ball

STABILIZED

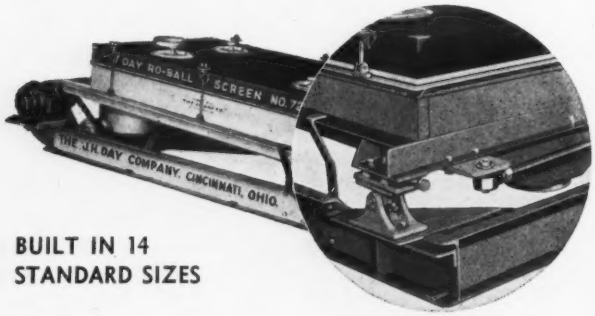
GYRATING SCREENS



24 HOURS A DAY — YEAR AFTER YEAR

That is the record of the battery of DAY Ro-Ball Gyrating Screens shown above. These DAY Ro-Ball Screens are operating in one of the Country's largest processing plants handling granular material.

This screen has many distinctive features of design and operation that have contributed to its unusual success in the various processing industries, such as: Free Floating Tail End Bearing and Self Adjusting Rubber Drag Link (shown in cut-out illustration below). Two other outstanding features are, the Super-Active Ball Cleaning Device and the Machined Aluminum Inspection Ports.



BUILT IN 14 STANDARD SIZES

There is a Ro-Ball for every screening problem

THE J. H. DAY COMPANY

Factory and Principal Offices

CINCINNATI OHIO

"Factory-testing" of Soap Perfumes in our own plant

MAKE THE PERFUME OF YOUR SOAP SAY—"QUALITY"

Make the perfume of your soap say "Quality" in tones that every user will quickly recognize. The odor of a soap makes such an important impression on the user, one way or the other, that it vitally affects your sales volume.

Buy Schimmel Soap Perfumes and be sure. Soap making affects perfumes in so many different ways that we test all our soap perfumes in our own miniature soap-making plant. That is why we can be so emphatic in telling you the results you will get from using them.

Samples will be gladly sent on request

SCHIMMEL & CO.

601 W. 26th St., New York

Chicago Los Angeles Toronto

Contracts Awarded

Low Soap Bidders

Newell-Gutradt Co., San Francisco, was low bidder on 7,500 pounds of laundry soap at $225, and 3,750 pounds of toilet soap at $244 in a recent opening by the U. S. Bureau of Supplies for the Panama Canal, at Washington. On 9,000 pounds of salt-water soap, Colgate-Palmolive-Peet Co., Jersey City, N. J., was low bidder at $260. On 10,000 pounds of soap powder, Stevens Soap Corp., Brooklyn, was low bidder at $310.

Low Treasury Dept. Bidders

American Soap & Washoline Co., Cohoes, N. Y., was low bidder on 1,584 pounds of laundry soap at 7.72c, 4,200 pounds of scouring powder at 1.21c, 24,000 pounds of scouring powder at 1.16c, and 1,200 cans of trisodium phosphate at 2.71c, in a recent opening by the supply procurement division of the U. S. Treasury Dept. at Washington. On 3,250 pounds of automobile soap, James Good, Philadelphia, was low bidder at 3.63c.

Low Air Corps Bidders

Swift & Co., Chicago, were low bidders on 23,000 pounds of soap powder in 2½-pound packages at 2.49c, and 1,600 pounds of soap powder in 200-pound barrels at 2.09c, in a recent opening by the supply division of the U. S. Army Air Corps at Wright Field, O. On 3,000 cans of glass scouring powder, Nielco Chemical Co., Detroit, was low bidder at 12.5c.

Buffalo Soap Awards

Procter & Gamble Distributing Co., Syracuse, N. Y., was awarded the contract for 15 cases of soap chips at $.005375 in a recent opening by the U. S. Army Engineers Quartermaster at Buffalo, N. Y. Swift & Co., Buffalo, were awarded the contract for 30 cases of grit soap at $.00389 and 30 cases of soap powder at $.00179. On 5 cases of lye, Pennsylvania Salt Mfg. Co., Philadelphia, was awarded the contract at $.00376. On 6 cases of bowl cleaner, Larkin Co., Buffalo, was awarded the contract at $.00454.

Jeffersonville Soap Awards

Naphthalene Products Co., Birmingham, was awarded the contract for 14,000 pounds of naphthalene flakes at 6.18c in a recent opening by the U. S. Army Quartermaster at Jeffersonville, Ind. On 2,500, 6 oz. cakes of soap, Armour & Co., Chicago, were awarded the contract at 2.46c. On 3,000 cakes of grit soap, Hunnewell Soap Co., Cincinnati, was awarded the contract at 2.02c.

Low Treasury Soap Bidders

Harley Soap Co., Philadelphia, was low bidder on 5,500 gallons of toilet soap at 17.4c, in a recent opening by the Bureau of Supply, U. S. Treasury Dept., Washington. On 2,000 pounds of automobile soap, George L. William Co., Cleveland, was low bidder at 3.59c per lb.

FTC Checks "Drene" Claims

Procter & Gamble Co. has just signed a stipulation with the U. S. Federal Trade Commission agreeing to discontinue certain claims which it has been making in connection with the advertising of "Drene" shampoo. The company will no longer state that it is impossible to produce another shampoo which will be as safe, pure, mild or beautifying as "Drene"; that its shampoos are the only ones which will completely remove excess oil, dirt and perspiration accumulations from the hair, or which are non-alkaline, and that use of its products will make dyed hair natural looking, unless this assertion is specifically limited to those cases in which the hair is unnatural in appearance due to incomplete cleansing or lime soap deposit. The company also stipulates that it will cease comparing its preparations with "ordinary" shampoos in any way which implies that such comparison is true as regards all other shampoos.

Offer New Detergent

Rohm & Haas Co., Philadelphia, have recently introduced a new detergent agent for use as a lathering ingredient in soapless shampoos under the name of "Triton Suds." The new product is offered as a fine, gray paste which is easily diluted with water. A ten per cent solution in water is said to be clear and transparent.

Lever on Management Board

Viscount Leverhulme, head of the world-wide Lever interests, retired as president of the International Committee of Scientific Management at the conclusion of the recent seventh International Management Congress, being succeeded by William M. Batt, head of SKF Industries, Philadelphia. Lord Leverhulme will serve until 1941 as a vice-president of the committee.

Evaluates Soft Soaps

A method for measuring and rating the detergent powers of soft soaps was described by Edward D. Davy in a paper delivered at a recent meeting of the American Pharmaceutical Association. Surface tension and emulsifying power were considered to be the more important factors on which detergency is dependent. The ability to emulsify mineral oil was taken as the measure of emulsifying power, with a measure of the separated soap solution serving as a means of comparison. Soaps studied were made from corn oil, soya bean oil, coconut oil, linseed oil and three brands of oleic acid.

George Mennen Marries

George Mennen, son of William G. Mennen, president of Mennen Co., Newark, N. J., was married recently to Miss Mary Elizabeth Maloney.

SEE IF KOPPERS MAKES IT

When the moisture content of textile fibers falls below certain limits in textile mills, the strength of the fibers decreases and breakage increases. Static electricity also builds up in the fibers and causes them to repel each other; this further weakens the threads and increases the quantity of lint produced.

One textile mill was having trouble keeping up the humidity. Water sprays were installed and they increased the humidity but they made the workers uncomfortable. (When temperature and humidity are high, perspiration does not evaporate and heat strokes are not uncommon). This company installed a Koppers Water-cooled Roof. The humidity was easier to control, yet the building was cooler and static electricity was easy to control. Send for details about the Koppers Water-cooled Roof.

KOPPERS PRODUCTS

CRESOL, U. S. P. . . . PHENOL . . . CRESYLIC ACID, 98% to 100%, Straw Color . . . TAR ACID OILS . . . NEUTRAL HYDROCARBON OIL . . . NAPHTHALENE . . . BENZOL, (all grades) . . . TOLUOL (Industrial and Nitration) . . . XYLOL (10° and Industrial) . . . SOLVENT NAPHTHA (including High Flash) . . . SHINGLE STAIN OIL . . . REFINED TARS . . . INDUSTRIAL COAL TAR PITCHES . . . FLOTATION OILS . . . CREOSOTE . . . TANKS AND TANK WORK . . . REMOVAL AND RECOVERY APPARATUS . . . COAL TAR ROOFING . . . WATERPROOFING AND DAMPPROOFING MATERIALS . . . TARMAC ROAD TAR . . . BITUMINOUS BASE PAINTS . . . COAL AND COKE . . . FAST'S SELF-ALIGNING COUPLINGS . . . AMERICAN HAMMERED PISTON RINGS . . . GAS, AIR AND WATER VALVES . . . PRESSURE-TREATED TIMBER PRODUCTS . . . BRONZE AND IRON CASTINGS

PRODUCTS OF THE WHITE TAR COMPANY OF NEW JERSEY, INC.

REFINED NAPHTHALENE

Crushed, Crystals, Powder, Lump, Chips, Flakes. For use in manufacture of deodorizing blocks, moth preventives and other insecticides.

Also Naphthalene in Balls; Blocks, Tablets.

COAL TAR DISINFECTANTS

Co-efficients 2 to 20 plus, F. D. A. Method

CRESOL AND CRESYLIC DISINFECTANTS

PINE OIL DISINFECTANTS

PINE OIL DEODORANTS

CRYSTAL AND BLOCK DEODORANTS

LIQUID INSECTICIDES

DEODORIZING BLOCKS

Pressed Naphthalene or Paradichlorobenzene. Various sizes and shapes. Perfumed and plain. Bulk industrial packages, retail packages.

KOPPERS COMPANY

PITTSBURGH

New Trade Marks

The following trade-marks were published in the September issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks Filed

CLOTRACIDE — This in solid letters describing insecticides. Filed by Cloverset Flower Farm, Kansas City, June 25, 1938. Claims use since Jan. 2, 1937.

LOR-REL—This in semi-solid letters on geometric design describing mechanic's soap. Filed by Lorel Scientific Essential Laboratories, Maywood, Calif., Aug. 9, 1937. Claims use since Dec., 1931.

PRO-DENT — This in outline script describing dental cream. Filed by Trade Laboratories, Inc., New York, June 28, 1938. Claims use since Feb. 14, 1935.

HPC STICKER—This in solid letters describing insecticides. No claim is made to the word "Sticker" apart from the mark. Filed by Hercules Powder Co., Wilmington, Del., July 1, 1938. Claims use since June 24, 1938.

ZIZZ—This on reverse plate with a drawing of mosquito describing insecticide. Filed by French Laboratories, Inc., Minneapolis, July 5, 1938. Claims use since April 27, 1938.

NATIONAL HARD-WEAR WAX—This in solid letters describing floor wax. The words "Hard-Wear Wax" are disclaimed apart from the mark. Filed by Donald Durham Co., Des Moines, Ia., May 9, 1938. Claims use since March 30, 1938.

TEX-ITE—This in solid letters describing liquid cleaner. Filed by Tex-ite Products Corp., Brooklyn, April 1, 1938. Claims use since Sept. 1, 1926.

U-SEE—This in solid letters describing window cleaner. Filed by United Chemical Co., Kansas City, April 20, 1938. Claims use since March, 1937.

BRILLON—This in outline letters with drawing of a man's head, describing shampoo. Filed by Brillon Hair Remedies Co., Detroit, Oct. 30, 1937.

RESOLOR—This in solid letters describing preparation for the treatment of Athlete's Foot. Filed by Castill Chemical Co., Baltimore, May 11, 1938. Claims use since Feb. 1, 1937.

ALMA DE ESPANA — This in solid letters, the first two words in script, describing soap. The word "Espana" is disclaimed apart from the mark. Filed by Goyescas Corp., New York, March 21, 1938. Claims use since Feb. 28, 1938.

MARY KING — This in solid script describing soap. Filed by J. R. Watkins Co., Winona, Minn., March 21, 1938. Claims use since March 10, 1930.

TEC-NI-CLENE—This in solid letters describing dry cleaning solvent. The word "Clene" is disclaimed apart from the mark. Filed by Dow Chemical Co., Midland, Mich., June 13, 1938. Claims use since June 1, 1938.

PURACHIP—This in solid letters describing soap flakes. Filed by Erlo Products, Inc., Muncie, Ind., June 24, 1938. Claims use since June 6, 1938.

PETROHOL—This in solid letters describing cleaning fluid. Filed by Standard Alcohol Co., Wilmington, Del., July 5, 1938. Claims use since 1925.

K9 — This in outline letters with drawings of heads of a number of dogs and an advertising message, describing a pine oil disinfectant. Filed by Zenith Products Co., Cleveland, April 28, 1937.

KAR-NEET—This in solid letters describing automobile polish. Filed by Paramount Products Co., Dover, N. J., June 16, 1938. Claims use since May 21, 1938.

ALADDIN—This in letters resembling script for cleaning preparation. Filed by James B. McComb, New York, Dec. 3, 1937. Claims use since Aug. 5, 1922.

TRISCO—This in solid letters describing textile soap and cleaner. Filed by Scholler Brothers, Philadelphia, Apr. 27, 1938. Claims use since May 28, 1937.

KENT—This in solid letters on shield describing shaving and toilet soaps. Filed by Crosby Brush & Import Co., New York, June 10, 1938. Claims use since Feb., 1936.

KLESO—This in solid letters with background of Venetian blind on window describing cleaner for Venetian blinds. Filed by Kleso Manufacturing Co., New York, June 20, 1938. Claims use since Apr. 4, 1938.

BES'PRAY—This in solid letters describing preparation for cleaning glass windows. Filed by C. M. Kimball Co., Everett, Mass., July 9, 1938. Claims use since Dec. 14, 1937.

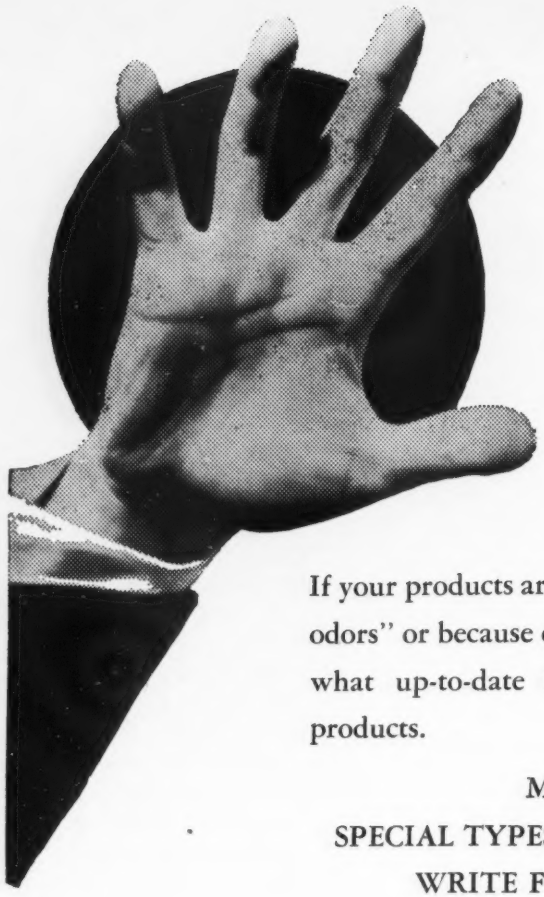
J.J.J.—This in script letters on decorative design describing general household cleaner. Filed by Marion Laboratories, Inc., Chicago, July 11, 1938. Claims use since 1929.

CORONET—This in stencil letters describing soap powder. Filed by Tex-ite Products Corp., Brooklyn, July 11, 1938. Claims use since Apr. 5, 1938.

CHI-NA-TONE—This in solid letters describing cleaner for china plumbing fixtures. Filed by Columbia Products Corp., Washington, D. C., July 14, 1938. Claims use since July 5, 1938.

ODOR CHASER—This in solid letters within letters O C and with drawing of toilet bowl describing toilet bowl deodorant. Filed by Zoro Co., Chicago, Feb. 5, 1938. Claims use since Jan. 2, 1938.

FOUR PENNY—This in solid letters describing shampoo. Filed by Four Penny Products Co., Chicago, May 9, 1938. Claims use since July, 1932.



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Also 35 representatives covering principal cities of the United States and Europe

BETTY LYNN—This in letters representing script signature describing shampoo. Filed by Marathon Laboratories, Newark, N. J., June 11, 1938. Claims use since Nov. 22, 1937.

SANTOX—This in solid letters describing preventer of rancidity in soap and vegetable oils. Filed by Monsanto Chemical Co., St. Louis, July 23, 1938. Claims use since July 8, 1938.

FLARE—This in solid letters within drawing of lightning striking, describing general housold cleaner and auto polish. Filed by Flare Laboratories, Chicago, July 1, 1938. Claims use since Apr. 14, 1938.

AUTOCRAT—This in olid letters describing shaving soap. Filed in Brunswig Drug Co., Los Angeles, July 13, 1938. Claims use since June 23, 1938.

LINAC—This in solid letters above silhouetted drawing of bell hop describing general household cleaner. Filed by Linden Chemical Co., Rahway, N. J., July 28, 1938. Claims use since June 6, 1935.

ALKALATE—This on stencil describing cleansing powders. Filed by Sunshine Soda Co., New York, July 30, 1938. Claims use since May 16, 1935.

SNOW WHITE—This in solid letters within illustration of polar bear describing disinfectant. Filed by Andrew Mancuso, Kansas City, Mo., Mar. 25, 1938. Claims use since Mar. 1, 1935.

R. S. 380—This in solid letters describing insecticides. Filed by Rohm & Haas Co., Philadelphia, July 2, 1938. Claims use since June 20, 1938.

LADCO—This in solid letters describing insect spray. Filed by Louisiana Drug Co., Opelousas, La., July 19, 1938. Claims use since Sept. 1, 1936.

BUG-MASTER—This in solid letters describing glass cleaner. Filed by Anderson Co., Gary, Ind., Jan. 29, 1938. Claims use since Dec. 3, 1937.

B CLEAN R—This on reverse plate describing a general household cleaner. Filed by Champion Products Co., Orange, Mass., May 2, 1938. Claims use since Nov. 1, 1937.

HYMOLIT—This on stencil describing soap. Filed by Hart Products Corp., New York, May 4, 1938. Claims use since Jan. 13, 1936.

LIS-ARGE—This in shaded letters on oval mark describing shaving cream. Filed by James V. Lamorte, New York, July 8, 1938. Claims use since July 2, 1938.

CALI-FOAM—This in solid letters describing general household cleaner. Filed by General Household Necessities Co., Los Angeles, July 19, 1938. Claims use since June 13, 1938.

HY-O-FOM—This in solid letters below drawing of light-house scene describing shampoo. Filed by Cleanse-All Products Co., New York, Aug. 26, 1937. Claims use since June 8, 1937.

LETHOIL—This in solid letters describing insecticides. Filed by Rohm & Haas Co., Philadelphia, June 16, 1938. Claims use since May 26, 1938.

"ANT SHOTS"—This in solid letters describing insecticides. Filed by Peru Specialty Co., Peru, Ind., June 21, 1938. Claims use since May 1, 1938.

ZIMCO—This in solid letters describing insecticides. Filed by Zip Manufacturing Co., Oklahoma City, July 12, 1938. Claims use since June, 1935.

TAWN—This in solid letters describing insect repellent preparation. Filed by McKesson & Robbins, Bridgeport, Conn., July 25, 1938. Claims use since July 18, 1938.

MAGIKIL—This in solid letters with first letter larger than rest, describing ant bait. Filed by Lethelin Products Co., Wood Ridge, N. J., July 27, 1938. Claims use since March, 1935.

MYSTIKIL—This in solid letters with first letter larger than others, describing insecticide. Filed by Lethelin Products Co., Wood Ridge, N. J., July 27, 1938. Claims use since March, 1935.

MIGHT—This in script letters describing tooth cleaning solution. Filed by Howard W. Thomas, Aberdeen, S. Dakota, July 27, 1938. Claims use since June 11, 1938.

GENTALC—This in solid letters describing insect powder. Filed by Murphy Products Co., Gouverneur, N. Y., July 28, 1938. Claims use since July 1, 1938.

SO—This in broken letters describing shampoo. Filed by J. Schanzenbach & Co., New York, July 29, 1938. Claims use since July 22, 1938.

ADCO—This in solid letters on label design describing floor polish. Filed by American Disinfecting Co., Sedalia, Mo., Dec. 10, 1937. Claims use since 1925.

GLASS-MASTER—This in solid letters describing glass cleaner. Filed by Anderson Co., Gary, Ind., Jan. 29, 1938. Claims use since Dec. 3, 1937.

SAPODERMA—This in solid letters describing soap. Filed by Elizabeth Gould, Brooklyn, N. Y., July 9, 1938. Claims use since July 19, 1937.

NAPTEX—This in shaded letters describing washing fluid. Filed by Solvent Products Co., New York, Aug. 5, 1938. Claims use since July 18, 1938.

TRI-SOL—This in broken letters describing degreasing solvents. Filed by Oklahoma Sanitary Supply Co., Oklahoma City, May 20, 1938. Claims use since Aug. 1, 1937.

SINOX—This in solid letters describing chemical spray for destroying weeds. Filed by Standard Chemical Products, Hoboken, N. J., June 28, 1938. Claims use since Jan., 1938.

GLOV-KOTE—This in solid letters describing cleansing aid for the hands. Filed by Glov-Kote Co., Chicago, June 29, 1938. Claims use since Dec. 24, 1937.

ZENO—This in solid letters within a large letter Z describing water softener and cleanser. Filed by Eusey Co., Los Angeles, Jan. 21, 1938. Claims use since Mar. 10, 1937.

(Turn to Page 117)

RED OIL *and* Pale Oleine

In non-returnable drums. Correct quality at competitive prices. Your inquiries and specifications will have prompt and careful attention here.

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TAR ACID OILS

We are excellently placed to supply these Oils in varying strengths—30 to 60% and Phenol Coefficient of Disinfectant 3 to 6.

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Bags and Barrels—Technical and U.S.P. qualities. Ample stocks at various warehouses insure quick delivery.

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(Nitro Benzol)
Prime Light Yellow

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CARBON TETRACHLORIDE
99.7% Pure

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It is only *part of the job* of these sturdy lithographed (or printed) STEEL CONTAINERS to carry your products *safely* and *conveniently* to your customers. They *are* built to take the hard knocks of shipping and handling without damage to the contents—and to provide convenient shipping and dispensing containers.

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NEW ORLEANS, LA. Phone: Galvez 2171
PORT ARTHUR, TEXAS Phone: 340

Sales Offices and Warehouses in Principal Cities

Raw Material Markets

As of September 26, 1938

New York—Trading in raw materials for the soap and sanitary chemicals industry was reported to have been somewhat more active during the period just closed. While consumers were generally disposed to limit their takings to moderate quantities, an increase was noted in the volume of orders for such lots. Price changes were few, with the trend for the most part downward. In the oils and fats group, crude coconut oil advanced 1/8c per pound in a firm market, cottonseed oil moved lower in price in the first part of the period, but later showed an advance due to publication of the government report showing cottonseed oil consumption figures as higher than had been expected, lard oil declined in price, and olive oil foots moved lower. There were very few changes in the prices for perfuming materials. Anise oil continued downward, and both cassia oil and peppermint oil registered lower prices.

OILS AND FATS

Coconut Oil

A firmer tone developed in the market for crude coconut oil during this period and prices advanced 1/8c to a basis of 3 3/8c per pound. Reports were current that consumers were showing somewhat more interest, and additional inquiries were received. However, such transactions as were reported were limited to comparatively small quantities to fill current requirements.

Cottonseed Oil

During the early part of the period the trend of prices for crude cottonseed oil was downward due to the warlike news from Europe, which had a depressing effect on the securities and commodities markets. Trade interests, local operators, and commission houses were reported to be liquidating their holdings. However, the publication of the government cottonseed report toward the end of the period, showing consumption figures as considerably higher than had been expected, caused buying on the part of those who had been selling short in order to cover, and stimulated purchasing by other trade interests. This turned the trend of prices upward, but by the end of the period, crude cottonseed oil showed a net decline of 1/4c per pound.

Another factor which influenced buying interest in cottonseed oil was the sharp rise in the price of lard oil during this period. An active inquiry was reported for this commodity, both domestic and export. Later on the demand relaxed and the price of lard oil declined. A net reduction of 1/4c per pound was registered during the period. The market for crude corn oil was quiet. Quotations were reduced to a basis of 7c to 7 1/4c per pound.

Olive Oil

A better inquiry was noted for moderate lots of denatured olive oil and olive foots during this period. The market was fairly steady, although quotations on olive foots declined 3/8c to 1/2c per pound. According to reports from Palermo, the 1938 olive crop in Sicily was severely damaged by rains. One source predicted that production for the 1938-39 season would be about 1,300,000 to 1,400,000 hestoliters, a figure much smaller than the production in previous years.

Tallow

There was no price change in the tallow market during this period. While there were reports of some increase in the volume of inquiries received, business was generally limited to moderate quantities. Most of the trading, it was reported, was being done in the west. In the market for grease there were also reports of a somewhat better inquiry, but actual transactions were said to have been of little consequence.

PERFUMING MATERIALS

Anise Oil

A further reduction in the price of anise oil was registered during this period, to a basis of 76c per pound. It was felt that prices had now settled to a point where they would be free from further unsettlement which competition had caused recently. Prices for cassia oil were lower, to a basis of 85c to 90c per pound. It was also felt that cassia oil had settled to a position which would be held for awhile, since there was also less evidence of competition in this commodity. Demand was said to have improved.

Peppermint Oil

Prices for natural peppermint oil declined 10c to 15c per pound to a basis of $2.20 to $2.45. The market was said to be pretty well stabilized at the new prices with little likelihood of a change very soon. Demand for the oil was moderate for most of the period.

Glyco Appoints Agents

Glyco Products Co., New York, chemicals, waxes and emulsifying agents, recently announced the appointment of the following foreign representatives: M. Romulo Vildoso for Bolivia, R. R. Haagensen for Norway, Einar Holmark, Denmark; Tuteur & Co., Belgium, and Eugen Boll, Switzerland.

Druggists to Meet in Chicago

The Federal Wholesale Druggists Association will open its 23rd annual convention in the Stevens Hotel, Chicago, Oct. 5, with the meetings to continue through Oct. 8. A. E. Zuber, local secretary for the association, is in charge of arrangements.

CRESYLIC ACID

AROMATICS

PHENYL ETHYL ALCOHOL
GERANIOL
CITRONELLOL
ACETOPHENONE
BENZYL ACETATE
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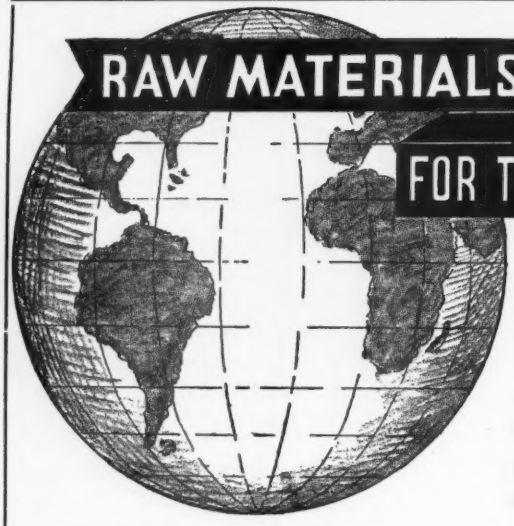
FOR THE SOAP INDUSTRY
FROM ALL PARTS OF THE WORLD



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Tallow
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Soda Ash
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Chlorphyll
"CEREPS" Superfatting Agent

WELCH, HOLME & CLARK CO., Inc.
563 GREENWICH STREET ESTABLISHED 1838 NEW YORK CITY

Raw Material Prices

(As of September 26, 1938)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	$ .05¾	$ .06¼
Acid, Boric, bbls., 99½%	ton	106.00	138.00
Cresylic, drums	gal.	.73	.74
Low boiling grade	gal.	.78	.80
Oxalic, bbls.	lb.	.10¾	.12
Adeps Lanae, hydrous, bbls.	lb.	.16	.18
Anhydrous, bbls.	lb.	.17½	.19
Alcohol, Ethyl, U.S.P., bbls.	gal.	4.56½	4.61½
Complete Denat., SD 1, drums, ex.	gal.	.31	.33
Alum. Potash lump	lb.	.036	.039
Ammonia Water, 26°, drums	lb.	.02	.02¼
Ammonium Carbonate, tech., bbls	lb.	.08	.12½
Bentonite 1, works	ton	—	16.00
Bentonite 2, works	ton	—	11.00
Bleaching Powder, drums	100 lb.	2.25	3.35
Borax, pd., cryst., bbls., kegs	ton	58.00	74.00
Carbon Tetrachloride, car lots	lb.	.06¾	.07¼
L. C. L.	lb.	.07¾	.08¼
Caustic, see Soda Caustic. Potash Caustic			
China Clay, filler	ton	10.00	25.00
Cresol, U.S.P., drums	lb.	.10½	.11
Creosote Oil	gal.	.13½	.14½
Feldspar (200 to 325 mesh)	ton	14.00	15.00
Formaldehyde, bbls.	lb.	.05¾	.06¼
Fullers Earth	ton	10.00	30.00
Glycerine, C. P., drums	lb.	.14¼	.14¾
Dynamite, drums	lb.	—	Nom.
Saponification, drums	lb.	.09½	.09¾
Soap, lye, drums	lb.	.08½	.08¾
Hexalin, drums	lb.	—	.30
Kieselguhr, bags	ton	—	35.00
Lanolin, see Adeps Lanae.			
Lime, live, bbls.	per bbl.	—	2.45
Mercury Bichloride, kegs.	lb.	.99	1.13
Naphthalene, ref. flakes, bbls.	lb.	.05¾	.06
Nitrobenzene (Wyrhane) drums	lb.	.08	.09
Paradichlorbenzene, bbls., kegs	lb.	.12½	.15½
Petrolatum, bbls. (as to color)	lb.	.02¾	.08⅛
Phenol (Carbolic Acid), drums	lb.	.14½	.15½
Pine Oils, bbls.	gal.	.46	.59
Potash, Caustic, drums	lb.	.07	—
Flake	lb.	.07¼	.07½
Potassium Carbonate, solid	lb.	.06½	.06¾
Liquid	lb.	.03	.03½
Pumice Stone, powder	100 lb.	3.00	4.00
Rosins (600 lb. bbls. gross for net)—			
Grade B to H, basis 280 lbs.	bbl.	4.75	5.40
Grade K to N	bbl.	5.40	6.20
Grade WG and K	bbl.	6.30	7.40
Wood FF Spot	bbl.	5.65	6.10
Rotten Stone, pwd. bbls.	lb.	.01¾	.02½
Silica	ton	20.00	27.00
Soap, Mottled	lb.	.04⅛	.04½
Olive Castile, bars	lb.	.22	.26
Olive Castile, powder	lb.	.28	.33
Powdered White, Neutral	lb.	.20	.22
Olive Oil Foot, bars, 68-70%	lb.	.09	.09½
Green, U.S.P.	lb.	.11	.13½
Tallow Chips, 88%	lb.	.07½	.08½
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.08	1.35
Car lots, in bulk	100 lb.	—	.90
Soda Caustic, cont., wks., solid	100 lb.	—	2.30
Flake	100 lb.	—	2.70
Liquid, tanks	100 lb.	—	1.95
Soda Sal., bbls.	100 lb.	$1.10	$1.30
Sodium Chloride (Salt)	ton	15.00	15.60
Sodium Fluoride, bbls.	lb.	.07½	.08¾
Sodium Hydrosulphite, bbls.	lb.	.16	.17
Sodium Silicate, 40 deg., drum	100 lb.	.80	1.20
Drums, 52 deg. wks.	100 lb.	1.40	1.80
Tar Acid Oils, 15-25%	gal.	.22	.28½
Triethanolamine	lb.	.20	.22
Trisodium Phosphate, bags, bbls.	lb.	.02	.03
Zinc Oxide, lead free	lb.	.06½	.07¾
Zinc Stearate, bbls.	lb.	.21	.23

Oils — Fats — Greases

Babassu, tanks, futures	lb.	.06⅝	Nom.
Castor, No. 1, bbls.	lb.	.09¾	.10½
No. 3, bbls.	lb.	.09¼	.10
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	.03¾	—
Tanks, Pacific Coast, futures	lb.	.02⅞	—
Fatty Acids	lb.	.09¼	.09¾
Copra, bulk, coast	lb.	.0185	Nom.
Corn, tanks, mills	lb.	.07	.07¼
Fatty Acids	lb.	.08¼	.08¾
Cottonseed, crude, tanks, mill	lb.	.0650	Nom.
PSY, futures	lb.	.079	.081
Fatty Acids	lb.	.06¼	.07¼
Soap stock 60-62%	lb.	.02⅝	.02⅞
Soap stock 65%	lb.	.03⅝	.03⅞
Foots (50% basis)	lb.	.01⅜	.01½
Greases, choice white bbls., f.o.b.			
Chicago	lb.	.05⅝	.06
Yellow	lb.	.04¾	.05
House	lb.	.04¾	.05
Lard Oil.			
Extra, bbls.	lb.	—	.09
Extra, No. 1, bbls.	lb.	—	.08¾
No. 2, bbls.	lb.	—	.08¼
Linseed, raw, bbls.	lb.	.0870	—
Tanks, raw	lb.	.0810	—
Boiled, 5 bbl. lots	lb.	.0950	—
Oleo Oil, No. 1, bbls., N. Y.	lb.	.09¼	—
No. 2, bbls., N. Y.	lb.	.09	—
Olive, denatured, bbls., N. Y.	gal.	.94	.98
Foots, bbls., N. Y.	lb.	.07	.07¼
Palm, shipment	lb.	.02¾	—
Palm Kernel, shipment	lb.	.0365	Nom.
Red Oil, distilled, bbls.	lb.	.08⅜	Nom.
Saponified, bbls.	lb.	.08⅜	Nom.
Tanks	lb.	.07½	Nom.
Sesame Oil, dms.	lb.	.10½	Nom.
Soya Bean, domestic tanks, crude	lb.	.05⅞	—
Stearic Acid.			
Double pressed	lb.	.10½	.11½
Triple pressed, bgs.	lb.	.13¼	.14¼
Sterine, oleo, bbls.	lb.	.07¾	.08
Tallow, special, f.o.b. plant	lb.	.05⅛	—
City, ex. loose, f.o.b. plant	lb.	.05¼	—
Tallow oils, acidless, tanks, N. Y.	lb.	.08	—
Bbls, c/l N. Y.	lb.	.08½	—
Teaseed Oil, crude	lb.	.07¼	.07½
Whale, refined	lb.	.0770	.0830

KRANICH SOAPS

PURE POWDERED SOAPS

Castile, U.S.P. Coconut, Pure White Neutral
Palm, Pure Castor, Pure

POTASH SOAPS

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Essential Oils

Almond, Bitter, U.S.P.	lb.	$2.05	$2.75
Bitter, F. F. P. A.	lb.	2.00	2.50
Sweet, cans	lb.	.60	.70
Anise, cans, U.S.P.	lb.	.76	.78
Bay tins		1.35	1.50
Bergamot, coppers	lb.	3.90	4.00
Artificial	lb.	1.25	1.30
Birch Tar, rect. tins	lb.	.65	.70
Crude, tins	lb.	.16	.17
Bois de Rose, Brazilian	lb.	1.55	1.60
Cayenne	lb.	1.50	1.75
Cade, cans	lb.	.44	.45
Cajeput, native, tins	lb.	.48	.50
Calamus, tins	lb.	3.60	4.25
Camphor, Sassy, drums	lb.	.19	.20
White, drums	lb.	.17	.18
Cananga, native, tins	lb.	1.25	1.30
Rectified, tins	lb.	1.80	1.85
Caraway Seed	lb.	1.85	1.90
Cassia, Redistilled, U.S.P.	lb.	.85	.90
Cedar Leaf, tins	lb.	.63	.68
Cedar Wood, light, drums	lb.	.28	.30
Citronella, Java, drums	lb.	.38	.40
Citronella, Ceylon, drums	lb.	.35	.35½
Clove, U.S.P., tins	lb.	.98	—
Eucalyptus, Austl., U.S.P., cans	lb.	.35	.37
Fennel, U.S.P., tins	lb.	1.10	1.15
Geranium, African, cans	lb.	3.25	4.50
Bourbon, tins	lb.	2.65	3.00
Turkish	lb.	2.00	2.25
Hemlock, tins	lb.	.75	1.00
Lavender, U.S.P., tons	lb.	2.00	5.00
Spike, Spanish, cans	lb.	1.05	1.10
Lemon, Ital., U.S.P.	lb.	3.15	4.00
Cal.	lb.	2.50	—
Lemongrass, native, cans	lb.	.38	.40
Linaloe, Mex., cases	lb.	1.25	1.30
Nutmeg, U.S.P., tins	lb.	1.20	1.25
Orange, Sweet, W. Ind., tins	lb.	1.90	2.00
Italian cop	lb.	2.25	3.25
Distilled	lb.	—	.50
Cal.	lb.	.65	.75
Origanum, cans, tech	lb.	.90	1.60
Palmarosa	lb.	2.05	2.75
Patchouli	lb.	3.75	8.00
Pennyroyal, dom.	lb.	1.40	1.45
Imported	lb.	1.35	1.40
Peppermint, nat., cans	lb.	2.20	2.45
Redis., U.S.P., cans	lb.	2.30	2.65
Petitgrain, S. A., tins	lb.	.90	1.00
Pine Needle, Siberian	lb.	.95	1.00
Rose, Natural	oz.	5.25	22.50
Artificial	oz.	2.00	8.00
Rosemary, Spanish, tins	lb.	.56	.75
drums	lb.	.51	.70
Sandalwood, E. Ind., U.S.P.	lb.	4.75	4.80
Sassafras, U.S.P.	lb.	1.00	1.05
Artificial, drums	lb.	.36	.37
Spearmint, U.S.P.	lb.	1.70	1.75
Thyme, red, U.S.P.	lb.	.85	1.25
White, U.S.P.	lb.	.85	1.45
Vetivert, Bourbon	lb.	4.35	16.50
Ylang Ylang, Bourbon	lb.	3.50	6.00

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.05	$1.45
Amyl Cinnamic Aldehyde	lb.	2.00	2.25
Anethol	lb.	1.00	1.05
Benzaldehyde, tech.	lb.	.60	.70
U. S. P.	lb.	.85	.95
Benzyl, Acetate	lb.	.44	.49
Alcohol	lb.	.63	.68
Citral	lb.	1.40	3.10
Citronellal	lb.	.75	.80
Citronellol	lb.	1.75	1.80
Citronellyl Acetate	lb.	4.50	7.00
Coumarin	lb.	2.75	4.65
Cymene, drums	gal.	.90	1.25
Diphenyl oxide	lb.	.50	.55
Eucalyptol, U.S.P.	lb.	.55	.57
Eugenol, U.S.P.	lb.	1.90	2.15
Geraniol, Domestic	lb.	.67	3.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	1.20	2.50
Heliotropin	lb.	1.80	2.20
Hydroxycitronellal	lb.	2.00	2.50
Indol, C. P.	oz.	2.00	2.13
Ionone	lb.	1.30	4.05
Iso-Eugenol	lb.	3.00	4.25
Linalool	lb.	2.10	6.30
Linalyl Acetate	lb.	1.35	2.25
Menthol	lb.	3.00	3.35
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.10	2.30
Paracresol	lb.	4.50	6.00
Salicylate, U.S.P.	lb.	.40	.45
Musk Ambrette	lb.	3.25	3.65
Ketone	lb.	3.40	3.80
Xylene	lb.	1.00	1.25
Phenylactaldehyde	lb.	2.25	3.50
Phenylacetic Acid	lb.	1.75	3.00
Phenylethyl Alcohol	lb.	2.70	4.25
Rhodinol	lb.	6.65	13.00
Safrol	lb.	.50	.53
Terpineol, C. P., 1000 lb. drs.	lb.	.23	.24
Cans	lb.	.25	.30
Terpinyl Acetate, 25 lb. cans	lb.	.77	1.00
Thymol, U.S.P.	lb.	1.40	1.45
Vanillin, U.S.P.	lb.	2.10	2.20
Yara Yara	lb.	1.25	1.50

Insecticide Materials

Insect Powder, bbls.	lbs.	.28	.30
Concentrated Extract			
5 to 1	gal.	1.68	1.78
20 to 1	gal.	6.25	6.35
30 to 1	gal.	9.20	9.30
Derris, powder—4%	lb.	.30	.35
Derris, powder—5%	lb.	.36	.42
Cube, powder—4%	lb.	.26	.30
Cube, powder—5%	lb.	.30	.35

Gums

Arabic, Amb. Sts.	lb.	.09½	.09¾
White, powdered	lb.	.23	.24
Karaya, powdered No. 1	lb.	.14½	.23
Tragacanth, Aleppo, No. 1	lb.	2.65	2.70
Flake	lb.	.50	1.00

Waxes

Bees, white	lb.	.37	.39
African, bgs.	lb.	.20½	.21
Refined, yel.	lb.	.32½	.33
Candelilla, bgs.	lb.	.15	.15½
Carnauba, No. 1	lb.	.42½	.44
No. 2, N. C.	lb.	.41½	.42
No. 3, chalky	lb.	.33½	.34½
Ceresin, yellow	lb.	.08½	.11½
Paraffin ref. 125-130	lb.	.039	.040

The LONG AND *short*
OF THE FAT AND OIL MARKETS

THE accompanying editorial, reprinted from the August 1938 issue of SOAP magazine, sums up admirably the current situation and future outlook in the Fat and Oil markets.

There is no need for you to be "caught short" on your future requirements of fats and fatty acids, for INDUSOIL (refined Tall Oil) and LIQRO (crude Tall Oil) are available in large quantities and at prices that are not apt to fluctuate.

These pine fatty acids may be the solution to your raw material problem.

Investigate the possibilities of using INDUSOIL and LIQRO in your process.

SOAP August, 1938

THE longer term trend in the fat and oil markets, that is the trend between now and early 1939, is likely to be upward. Discussion of the current situation and the outlook in the trade reveals that a general rise of possibly two cents per pound throughout the list by next January, would not be any great surprise. A softening of the market during August appears to be anticipated in one or two quarters, with the uptrend getting under way seriously in September. The outlook is for a somewhat heavier production of fats and oils over the balance of the year, but with a resumption of general business in the Fall, the effect of larger supplies is expected to be more than offset by heavier demand.

Many soapers are standing at the crossroads today as far as the raw material situation is concerned. They are uncertain as to which way to turn, even though in checking back over the past two or three years, they admit that the present market looks like the spot to anticipate some future requirements. And the fact that producers are apparently unwilling to contract any great distance ahead, adds another element of uncertainty. On the whole, we should be inclined to interpret this latter as a bullish factor rather than anything else. Although anything can happen in the oil and fat markets, as everybody knows from past experience, we feel that there is greater safety in not being too short of raw materials during the next five or six months.

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Production Section

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries.*

Transparent Soaps

TRANSPARENT soaps were made many years ago by saponifying the purest possible tallow and coconut oil with caustic soda by the cold or semiboiled process, and dissolving the resulting soap in alcohol. To a certain extent the same principle is still applied, as most transparent soap today are made with alcohol. A formula for such a soap is as follows:

	Parts by Weight
Coconut oil	20
Tallow	18
Castor oil	12
Caustic soda, 38°Be.	25
Glycerine	10
Alcohol	15
Sugar	10
Water	15

The fats are melted in turn in a double-walled steam kettle, according to their respective melting points, and finally brought to a temperature of 70° C. The fat mixture is then filtered into a second double-walled vessel and stirred in a thin stream into the caustic soda solution. A part of the alcohol and all of the glycerine may be mixed with the lye. An early addition of alcohol hastens saponification, and glycerine helps maintain the mixture in a liquid state. After mixing the lye and fats well, steam is introduced into the outer jacket and mixing continued mechanically. At first, emulsified particles of fat collect on the surface, but the appearance soon changes, and the soap looks as if it contained too much alkali. This again changes and the soap gradually becomes smooth and homogeneous in appearance.

Heating with steam is continued until the soap begins to boil around the edge of the vessel. The steam is then turned off but stirring is continued until the soap begins to rise in the kettle. Stirring is stopped and the batch examined for completeness of saponification. When the soap falls, it is usually a sign that most of the fat has been saponified. The soap is again stirred for a few minutes and observed as to whether swelling occurs. This is repeated until the soap no longer rises, when the kettle is again heated with steam. The soap is finally tested for alkalinity, a small excess of which should be present. The kettle is covered and allowed to stand for sometime, with occasional brief stirring. After about an hour the kettle is uncovered, the soap well mixed, and tested with phenolphthalein as well as with the tongue. The indicator should be noticeably pink. Any necessary adjustment is made and the soap mixed well.

The remainder of the alcohol, and the sugar, dissolved in water, are added, and the soap stirred until smooth. A small sample is removed to a glass plate and allowed to set. Alkalinity is also tested again. If the soap is too sharp, as shown by turbidity and brittleness of the sample, warmed coconut oil may be stirred in and then allowed to stand for a short time. The soap should be covered with only a thin foam, underneath which the liquid soap appears dark in color. The cooled samples should be completely transparent. As mentioned, turbidity may be due to too much alkali, but it also may be due to too little, in which case the sample will be turbid and soft on the glass plate. If necessary, more alkali can be added dissolved in alcohol. If the foam is thick and cottony, water or alcohol may be lacking. After any necessary correction, the soap should be well stirred and allowed to stand. Unnecessary warming should be avoided after the sugar solution has been added, as this may color the soap brown. However, any adjustments are preferably made before the soap has cooled down.

Color may be added in the form of 1-2 grams of dye per 100 kilograms of soap. The soap is allowed to cool to about 50° C. before perfume is introduced, dissolved in an equal volume of alcohol. After mixing, the mass is poured into forms, which are not too large, 35-40 kilograms being a convenient size. This makes the soap set quickly, which is an aid to transparency. The forms are emptied after 1-2 days and the soap blocks stored in a cool but not damp room for three weeks or

longer. During this time, the soap becomes clearer.

A transparent soap based on castor oil may be made from the following:

	Parts by Wgt. in Kg.
Castor oil	70
Coconut oil	70
Tallow	60
Caustic soda, 38° Be.	100
Salt solution	180

The fats are saponified as described above, after which the soap is dissolved in the "salt" solution. This produces transparency. A transparent soap without alcohol is always somewhat thicker than one with alcohol and needs to remain somewhat longer in the kettle than in the latter case. Addition is made at a higher temperature, about 65° C. in winter and 50° C. in summer.

The "salt" solution in the above formula should be prepared on the day before use. The solids are dissolved in hot water and stirred until solution is complete. Any foam present is carefully removed the next day. The "salt" solution has the following composition:

	Parts by Wgt. in Kg.
Distilled water	52
Potash	1
Sodium chloride	2
Crystallized soda ash	10
Sugar	35

The solution is warmed to at least 35° before use. Ekmann. *Riechstoffindustrie* **13,** 106-9 (1938).

Petroleum Fatty Acids

The large-scale production of fatty acids for soap manufacture has been accomplished by the oxidation of hydrocarbons with atmospheric oxygen at the Ludwigshafen works in Germany. The starting material is natural petroleum, tar or synthetic petroleum from the hydrogenation of coal. The oxidation is carried out in water-cooled towers up which the oil is forced, air being injected at the same time. The temperature is kept at 80-120° C. and a catalyst used. The rate of passage of paraffin through the towers is adjusted so that some of it remains unoxidized, so as to avoid excessive production of unsaponifiable substances. The unsaponifiable material, after separation from fatty acids, is returned to the oxidation towers, since it contains large quantities of unattacked hydrocarbons.

The mixture obtained is saponified with alkali. A part of the unsaponifiable material can be separated mechanically, since it floats on the soap solution. Further separation is accomplished by extraction with an organic solvent or by distillation. The solvent usually employed is a mixture of benzine and propyl or butyl alcohol. Distillation of the unsaponifiable material from the soap after evaporation of the water is difficult without decomposition of the soap, but has been achieved by the methods employed in coal hydrogenation.

The soap obtained is a mixture of sodium salts of fatty acids of widely differing chain lengths and degrees of saturation. It is converted to free fatty acids with a strong mineral acid, and the liberated fatty acids are fractionated in a vacuum still. A yield of 50-80 per cent of desirable fatty acids, based on the initial hydrocarbons, is obtained. These fatty acids are suitable for the manufacture of washing soaps and soap powders, and when mixed with natural oils, of fairly high-grade toilet soaps. *Chem. Age* **39,** 176 (1938).

Water in Soap Cracking

The formation of cracks in soap during storage is related to some extent to the ability or lack of ability of the soap to absorb water. A study of water absorption was made with soaps prepared from individual fatty acids and from mixtures of fatty acids. After drying, these soaps were powdered and then molded under pressure into small cylindrical briquettes 1 cm. thick and weighing about 1 gram. The soap briquettes were placed in a wire basket and dipped up and down into 50 cc. of water at 18-23° C. for 20 minutes, being removed from the water once a minute. The remainder of the briquette was then dried, weighed, and the amount of soap dissolved in the solution determined. The influence of overdrying was investigated by comparing anhydrous soap with that containing 15 per cent of water, corresponding to 80 per cent of fatty acids.

The conclusions were as follows: An effect of water on soap is evident at 18-23° C., with soap absorbing water and forming an outer layer of hydrated or so-called swollen soap. The amount of water in the portion of the soap remaining undissolved depends on the individual properties of the soap and on its original water content. In most cases anhydrous soaps absorbed water more slowly than 80 per cent soaps. The speed of water absorption by anhydrous sodium laurate, palmitate or stearate is about the same. Other soaps have a marked influence on swelling. Admixture with a soap dissolving quickly may greatly increase the swelling of a soap which dissolves slowly. An 80 per cent laurate soap swells very rapidly. Hydrated castor oil soap and both anhydrous and 80 per cent oleic acid soap dissolve very readily, so that the portion of the soap briquette remaining contained practically no swollen layer. In mixed soaps, such as oleic or castor oil soaps mixed with stearate and palmitate, the speed of solution of the former is reduced by the presence of 5 per cent the latter. Also the presence of a small amount of readily soluble soap increases the solubility of palmitates or stearates. B. Tjutjunnikow, S. Pleschkow and G Noskow. *Deutsche Parfumerie Ztg.* **24,** 206-8 (1938).

Purifying Soap

Organic impurities, particularly unsaponifiable components, are removed from aqueous solutions of soaps by treating the concentrated solution, in the absence of solvents soluble in water, with a solvent for the impurities but which is insoluble in water, preferably under high temperature and pressure, in countercurrent. The solvent is removed from the impurities by distillation and used over again. Henkel & Cie. G.m.b.H. French Patent No. 824,756.

Shaving Creams

SHAVING creams should be prepared with as little stirring as possible so as to minimize bubble formation. The best procedure consists in the semi-boiled emulsification of fats, lye and water, and, following the beginning of thickening, in leaving the mass to saponify spontaneously. This is feasible where in addition to stearin and coconut oil, which saponify very rapidly, fats like tallow or olive oil are present. The latter retard the saponification so that a sufficiently fine emulsion is present before thickening commences. An allowance must be made for about 0.1 per cent excess alkali in order to ensure complete saponification of neutral fats. Before perfuming the cooled, soft, creamy mass, the appropriate quantity of castor oil fatty acid or acid turkey red oil is stirred in to combine with residual alkali. Premature thickening of a cream whose fats consist solely of stearin and coconut oil can be prevented by adding a little electrolyte.

Residues of unsaponified neutral fats are by no means as dangerous in creams in well-capped tubes as they are in toilet soaps. Experimental batches of shaving creams containing several per cent of free olive oil have remained unchanged when kept for over two years. Creams made by saponification with caustic potash and caustic soda generally reveal a somewhat higher fatty acid content than those made only with caustic potash. They go farther in use.

A casein paste for superfatting may be made as follows:

Casein, first quality	12.50%
Water	46.75%
Borax	1.70%
Boric Acid	1.55%
Stearin	18.75%
Lanolin	18.75%

From 2 to 4 per cent is used. A styptic may also be added by combining 2.5 per cent of lecithin and 0.5 per cent of aluminum chloride with the soap base.

Basic formulas for shaving cream are as follows:

1.	Stearin	30%
	Coconut oil	11%
	Caustic potash, 50°	17%
	Glycerine	10%
	Water	32%
2.	Stearin	36.6%
	Coconut oil	6.4%
	Caustic potash, 42°	18.5%
	Caustic soda, 42°	2.5%
	Glycerine	16.0%
	Water	20.0%

(Note—The lye solutions in the above are probably in °Tw. 50° Tw. equal 29° Be. and 42° Tw. equal 25.2° Be.)

About 1 per cent of perfume is used. Suggested compositions are: (a) Lavender oil 57, bergamot 35, geranium 7 and coumarin 1 per cent; (b) lavender 62.6, spike 22.6, bergamot 11.3, labdanum resinoid 3.5; (c) lavender 70, musk ambrette 10, jasmin synthetic 10, neroli synthetic 8, and oakmoss 2 per cent. Karl Pfaff. *Soap, Perfumery and Cosmetics* **11,** 700-4 (1938).

Cold Process Soaps

Cold process soaps are conveniently prepared in a double-jacketed kettle, or on a smaller scale in a kettle placed over another kettle filled with water and heated over a direct flame. Concentrated lyes and pure fats are necessary. Even before the beginning of saponification the mass is in a thickly viscous condition. It is this thickly viscous condition that hinders salting-out of the resulting soap, so that the emulsifying action of the soap, produced at first only in traces, is maintained in spite of the high electrolyte concentration. Intensive stirring, preferably mechanical, keeps any separated soap in intimate contact with the unsaponified portion of the mass. The addition of a small amount of finished soap (even less than 1 per cent), to the lye-fat mixture causes a marked increase in the speed of saponification. The added soap should be in solution before introduction into the kettle. It is always advisable to make small-scale trials before applying a formula on a commercial scale. One reason for this is to enable the soapmaker to recognize when the soap has formed, so that it will not be run into the frames prematurely. Formulas for cold-process soaps are as follows:

		Parts by Wgt.
1.	Coconut oil	45
	Castor oil	5
	Caustic potash, 38° Be.	4
	Caustic soda, 38° Be.	25

		Parts by Wgt.
2.	Coconut oil	25
	Tallow	25
	Caustic potash, 38° Be.	5
	Caustic soda, 38° Be.	22

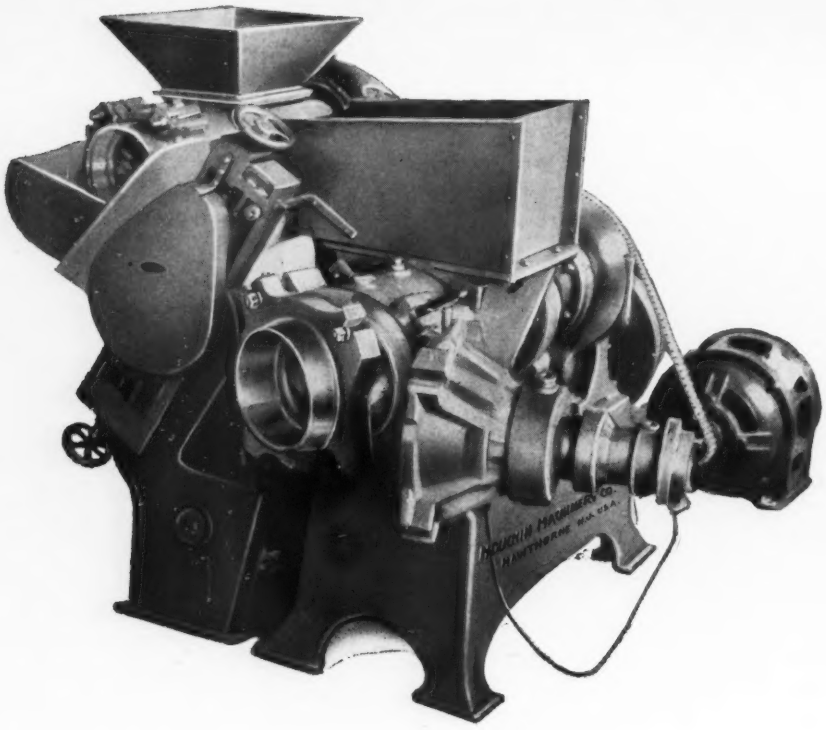
		Parts by Wgt.
3.	Coconut oil	35
	Olive oil	7.5
	Peanut oil	7.5
	Caustic soda, 38° Be.	27

		Parts by Wgt.
4.	Coconut oil	25
	Lard	15
	Olive oil, peanut oil or sunflower oil	10
	Caustic soda, 38° Be.	26

If it is desired to leave a small percentage of the fats unsaponified, a corresponding reduction in the quantity of lye may be made. If the soap is to be colored, the dye solution is best prepared by boiling for a few minutes and filtering through cloth. J. Davidsohn and A. Davidsohn. *Soap, Perfumery and Cosmetics* **11,** 601-5 (1938).

Fatty Acid Esters

The catalytic hydrogenation of the esters of unsaturated fatty acids is often acompanied by isomerization reactions. Isomerization occurs also during the heating of esters of unsaturated fatty acids with hydrogenation catalysts in the absence of hydrogen. Therefore this is not considered especially as a process dependent on hydrogenation. The isomerization of oleic acid ethyl ester was carried out with a nickel-kieselguhr catalyst at 290° C. An elaidination process takes place which could be followed by the iodine equilibrium-constant method of van der Steur. H. I. Waterman and C. van Vlodrop. *Rec. trav. chim.* **57,** 629-36 (1938); through Chem. Abs.



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Products and Processes

Solvent Soaps

Soap containing organic solvents may be prepared from 25 parts of soft soap. 25 of coconut oil fatty acids, 10 of caustic potash, 50° Be., 30 of methylhexalin, 40 of heavy benzine and 30 parts of water. Chlorinated hydrocarbons may also be used. *Seifensieder-Ztg.* **65,** 572 (1938).

Liquid Shampoo

A liquid shampoo may be made from fatty acids according to the following formula:

	Parts by Wgt.
Coconut oil fatty acids	50
Olive oil fatty acids	25
Castor oil fatty acids	25
Caustic potash, 50° Be.	48
Sugar	30
Alcohol	15
Distilled water	137

Saponification is carried out at about 70° C. The sugar is dissolved in a third of the total volume of water used, and added after saponification is complete. The alcohol is added last. Perfume is mixed in only after the soap has cooled somewhat. Kleimu. *Deutsche Parfumerie Ztg.* **24,** 287-8 (1938).

Carbonate Saponification

Fatty acids may be saponified with soda ash and caustic soda, followed by salting out once or twice, The amount of soda ash is calculated for saponification of 80 parts of the fatty acids present. The carbonate solution is mixed with water and thoroughly dissolved before the fatty acids are added. The reaction can be tested for completion, that is, to determine whether all the soda ash has been used up, by removing a small sample and adding hydrochloric acid to it. Effervescence will follow if soda ash is still present in the free form. The calculated amount of caustic soda for completing the neutralization is next added. This saponifies any neutral fat present, as well as the rest of the fatty acids. The soap should be rather thin at this stage to promote reaction. The rest of the process is carried out in the usual manner. *Allgemeine Oel-und Fett-Ztg.* **35,** 303 (1938).

Soap Bleach

Soap is neutralized and bleached by adding to it an aliphatic alcohol such as mannitol as well as boric acid. An example contains 0.1 part of mannitol and 1.5 parts of boric acid to 1000 parts of soap. Carl E. Rost and Hellmuth Wortmann. French Patent No. 823,776.

Synthetic Detergent

A polybasic mineral acid or halide is caused to react with a compound of the formula R.O.X, where R is an aromatic radical containing as substituent at least 1 aromatic, aliphatic-aromatic or straight-chain aliphatic radical with at least 3 carbon atoms, and X is a hydroxyalkyl radical. The salts of the products with alkalies, ammonia or amines are wetting, foaming, cleansing and dispersing agents. In examples, chlorosulfonic acid in the presence of ether, is used to sulfonate diphenylmonoglycol ether and an alkylphenylmonoglycol ether prepared by condensing phenol with the chlorides of coconut-oil acids and treating the product, after reduction, with ethylene chlorohydrin. I. G. Farbenindustrie A.-G. British Patent No. 481,557.

Dispersing Agent

Products that have wetting, cleaning, foaming and dispersing properties are prepared by treating an aromatic sulfodicarboxylic acid with an alcohol containing at least 5 carbon atoms, to form the monocarbocylic ester and then treating the latter with an alcohol containing at least 3 fewer carbon atoms than the alcohol used in the first esterification. The sulfonates may be used instead of the free sulfonic acids and the esterification processes may be effected in the presence of solvents or of esterification catalysts. As an example, 4-sulfophthalic acid anhydride is esterified with cetyl alcohol and the second carboxyl group is then esterified with amyl or methyl alcohol. Soc. pour l'ind. chim. a Bale. British Patent No. 481,346.

Wetting Agent

Urethane-like compounds are prepared by causing a chlorocarbonic ester of a carbocyclic hydroxy compound substituted in the nucleus by at least 1 radical containing 4 carbon atoms and consisting of an acyl radical or hydrocarbon radical other than an aryl radical, to react with a compound that contains a primary or secondary amino group and that may also contain a group imparting solubility in water. The soluble products or their salts have wetting, foaming, washing and dispersing properties. I. G. Farbenindustrie A.-G. British Patent No. 481,357.

Clear Soap from Sulfite Lye

Clear soap is manufactured with spent lye from sulfite cellulose by chlorinating the lye, neutralizing with an acid, removing precipitated matter, oxidizing the lye, reducing the water content, and incorporating soap to give the completed product. Karl Braun and Herman Plauson. Canadian Patent No. 375,849.

Washing Agents

Washing agents may be obtained by treating higher alcohols or carboxylic acids with alkylene oxides such as propylene oxide, glyceride, or epichlorhydrin in the presence of sodium ethylate, sodium carbonate, bleaching earth or active carbon. Among examples, hydrogenated unsaponifiable products of oxidized hard paraffin are caused to react with ethylene oxide and the resulting alkoxylated mixture is treated with benzine; the residue that is soluble in water has emulsifying power and disperses calcium soaps; the benzine layer is mixed with alcohol and water

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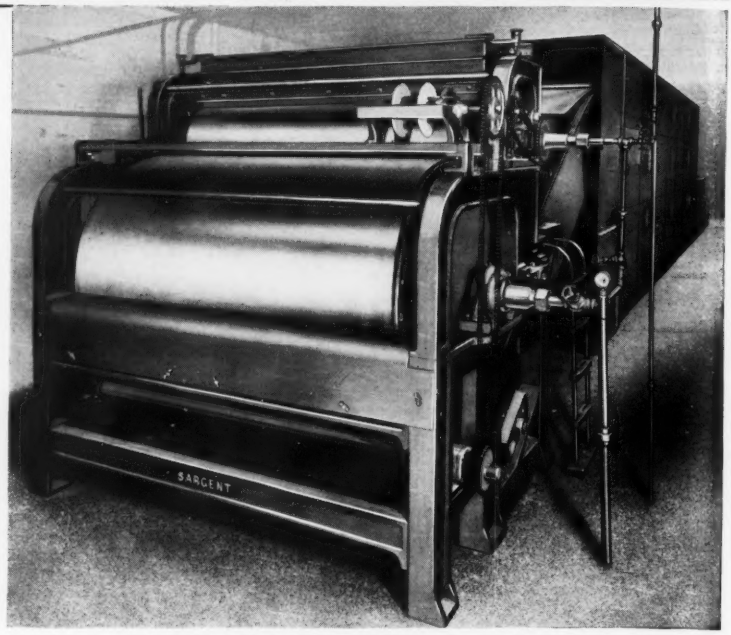

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and the aqueous layer, after further extraction with benzine, is evaporated to give a cleansing agent. I. G. Farbenindustrie A.-G. British Patent No. 480,117.

Lactic Acid Shampoos

Lactic acid is a colorless syrupy liquid considered by some to be particularly useful in liquid soapless shampoos for adjusting the pH of the preparation and enabling it to impart a brilliance to the hair instead of the dullness that invariably accompanies too alkaline shampoos. *Soap, Perfumery and Cosmetics* **11,** 695 (1938).

Fitting Soap

With off-grade tallows, a coarser fit is more advantageous than a fine one. In winter, when the settling time is shorter than that allowed in summer, a coarser fit is of much help. A certain amount of free caustic is essential to keep the soap in a more fluid condition so as to be easily taken out in the frames. With a medium fine fit, the soap should have a clear tendency to flake, leaving the trowel dry here and there. The more the tendency to flake and the shorter the size of the flakes, the greater is the percentage of free alkali remaining behind in the dried chips. J. S. Sulka. *Indian Soap J.* **4,** 290 (1938).

Fatty Acids by Electrolysis

Aqueous solutions of salts of fatty acids such as aqueous soap stock solutions are electrolyzed in a cell in which the electrodes are separated by a diaphragm, to free the fatty acids. A suitable cell is described. Hansa-Muhle A.-G. German Patent No. 658,986.

Cake Sand Soap

Cake soap for heavy-duty cleaning of the hands may be made from 50 parts of coconut oil, 30 of pumice, not too fine, 30 of caustic soda, 36° Be., 2 of caustic potash, 36° Be., and 5 parts of sodium silicate, 36-8° Be. Perfuming for the above in terms of kilograms may be made with 200 grams of cassia oil, 65 of anise oil, and 65 grams of benzaldehyde. The soap fat is melted in a suitable kettle, warmed to 40° C., stirred with the mineral powder and the temperature allowed to fall to 30° C., then the lye and sodium silicate are added. The soap thickens quickly and must be transferred to forms in a short time, where it is well covered and allowed to stand for the completion of saponification. Perfume and color such as ultramarine may be added following mixing with pumice. *Seifensieder-Ztg.* **65,** 531 (1938).

Cleansing Pad

A cleaner and scrubbing pad consists of a resilient, hollow body designed to hold soap or other saponaceous material, portions of the body wall being made of sponge rubber. This is in turn enclosed in an abrasive mesh of knitted ribbon-like metallic wire. Metal Textile Corp. Canadian Patent No. 375,508.

Glycerine Lyes

The impurities generally occurring in glycerine lyes do not interfere with the production of a glycerine suitable for nitrating or for pharmacopeial purposes. An abnormally high sulfur content, owing chiefly to the use of hyposulfite for the decolorization of fats, renders the purification of glycerine lyes much more difficult, and it would be highly advisable to revise the specifications established in 1911 which do not provide for a maximum hyposulfite content. J. Pepin-Lehalleur. Compt. rend. 17me Congr. chim. ind. Paris, 44-6; through Chem. Abs.

Oil Refining

Mineral and vegetable oils and fats are refined by mixing and stirring with an alkaline lye solution and then subjecting to the action of a second alkaline lye solution to precipitate impurities such as oxidases, albumins and parenchymas, which are removed by washing and decantation. The oil or fat is then given an acid treatment, washed and dried. Paul Jean Beyer. French Patent No. 824,700.

Fatty Acid Soft Soap

Suitable fatty acid mixtures for the preparation of a good white soft soap are the following:

	Kg.
1. Fish oil fatty acids	200
Palm kernel oil fatty acids	25
Tallow fatty acids	150
Soybean oil fatty acids	125
	Kg.
2. Fish oil fatty acids	200
Tallow fatty acids	150
Lard fatty acids	50
Soybean oil fatty acids	100

Distilled fatty acids are preferably used. Saponification is carried out as usual, the lye used being caustic potash mixed with 5-10 per cent of caustic soda. *Allgemeine Oel-und Fett-Ztg.* **35,** 250-1 (1938).

New Shampoo Bulletin

A bulletin covering the formulation and composition of various types of soapless shampoos has been issued by the American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, New York. The bulletin, a four-page mimeographed outline, covers the use of various non-soap bases manufactured by American Cyanamid, particularly Aerosol MA, Aerosol OT, and Aquasol AR. It gives formulas for the various shampoos, ten formulas for different types being given in all. Copies may be obtained direct from the company.

Cleaning Artificial Fibers

Artificial textile fibers require increased cleaning power of the washing agents. The use of a universal washing agent is advisable. The Igepals have the advantage over alcoholic or acid condensation products of not containing any ionogen groups such as the sulfo groups. They are completely stable in the presence of hard water, magnesium, iron, copper, etc., and are free from fats. Igepal C is suitable for the refining of cellulose fibers owing to its low substantive character. Igepal W is most suitable for finishing wool-staple rayon mixed fabrics. The high foaming power which used to be a characteristic property of washing agents is of no value in judging the quality of the new detergents. George Schulz. *Spinner und Weber,* **56,** No. 12, 7; through Chem. Abs.

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No. 2,125,411, Cleaning Composition, Patented August 2, 1938 by Ernest D. Wilson, Larchmont, N. Y., assignor to W-B Chemical Co., New York. A cleaning composition consisting essentially of a gel containing substantial amounts of water of an oleylaminoethyl sulphonic acid, the gel being substantially free from water-soluble salts.

No. 2,126,099, Manufacture of Soap and Glycerine, Patented August 9, 1938 by Robert A. Duncan, Wyoming, Ohio, assignor to Procter & Gamble Co., Cincinnati. In combination with the step of producing molten anhydrous soap by distillation of water and glycerine from a highly heated soap, the step of cooling the soap from an anhydrous molten condition at a high temperature to an anhydrous condition at a lower temperature, which comprises continuously mixing a flowing current of anhydrous molten soap with a flowing current of liquid water and discharging the soap and water mixture into an atmosphere having a pressure sufficiently below the original pressure of the mixture to cause volatilization of the water with absorption of heat from the mixture, the amount of added water being adjusted with relation to the total heat of the mixture and the reduced atmospheric pressure into which it is to be discharged so that the heat absorbed from the mixture by volatilization of the water at the reduced pressure will cool the soap and leave substantially no water unvolatilized.

No. 2,127,090, Insecticide, Patented August 16, 1938 by Lloyd E. Smith, Washington, D. C. An insecticide containing as its essential active ingredient 4,6-dinitro-o-tolyl acetate.

No. 2,127,526, Insecticide and Fungicide, Patented August 23, 1938 by Walter C. O'Kane, Durham, N. H. A fungicide or insecticide composition containing a bland oil selected from the class consisting of vegetable and animal oils, an oil soluble insect poison, a hydrocarbon distillate, the hydrocarbon components of which are of substantially uniform molecular size, and an oil soluble emulsifying agent.

No. 2,127,567, Sulfated Aliphatic Compounds, Patented August 23, 1938 by Fred W. Muncie, New Brunswick, N. J., assignor to Colgate-Palmolive-Peet Co., Jersey City. A process of the character described that comprises reacting a fatty material of the class consisting of fatty oils and fatty acids with a derivative of isobutylene of the class consisting of beta-methyl glycerine and beta-methyl glycidol and thereafter treating the product with fuming sulphuric acid.

No. 2,127,901, Soap Holder and Applicator, Patented August 23, 1938 by Leland J. Arms, San Francisco. A combination soap holder and applicator comprising a body portion formed of a permeable material and having a compartment formed therein for the reception of a cake of soap, a rigid plate secured in one end of the body and having an opening formed therein through which a cake of soap is insertable, and means for automatically closing the opening.

No. 2,128,083, Wax Acid Soap, Patented August 23, 1938 by Carleton Ellis, Montclair, N. J., assignor to Standard Oil Development Co. Process for making a transparent, petroleum-derived water-soluble soap gel which comprises oxidizing spent alkaline solutions of hydrogen sulfide of petroleum origin, concentrating the oxidized spent alkali, incorporating a sufficient proportion of wax acids to react with uncombined alkali, and heating to complete the saponification and induce transparency.

No. 2,128,113, Stable Oxygen Washing Powder, Patented August 23, 1938 by Karl Bauer, Frankfort-on-the-Main, and Friedrich Pressel and Hans Medweth, Rheinfelden/-Baden, Germany, assignors to Deutsche Gold und Silber Scheideanstalt vormals Roessler, Frankfort-on-the-Main, Germany. A stable alkaline oxygen-yielding washing powder which comprises an alkali metal percarbonate, sodium carbonate, and soap, the moisture content of the washing powder falling within the limits 5 to 7% by weight, based on the weight of the washing powder.

No. 2,128,433, Insecticidal Composition, Patented August 30, 1938 by Erik Rothein, Oslo, Norway. An insecticide adapted to be applied in the form of a spray containing minute drops comprising a volatile material capable of dissolving fats, waxes and the like and liquid at ordinary temperature and pressure together with a normally gaseous material comprising essentially a hydrocarbon having a boiling point below minus 20° C. under ordinary conditions, the gaseous material being dissolved in the liquid in a quantity sufficient to saturate the liquid with gas under a pressure of several atmospheres at normal temperature and an additional small percentage of a gaseous hydrocarbon having a considerably lower boiling point than the first mentioned hydrocarbon.

Water Softener

A water softener consists of a water-soluble salt of tetraphosphoric acid. $H_6P_4O_{13}$. Such a salt combines with an alkaline earth metal such as calcium so as to prevent deposition of an alkaline earth metal compound. Rumford Chem. Works. Canadian Patent No. 375,520.

Bleaching Agents

An aqueous solution having the properties of Javel water is made by accelerating the solution in water of chlorine compounds such as sodium hypochlorite, calcium hypochloride, perchloron, and H. T. H. by means of monochloroacetic acid. The chlorine compounds and the acid may be made up into the same or different tablets with starch or other binder. Jacob Rosin. French Patent No. 824,675.

Commercial Textile Agent

Igepal C is a new synthetic scouring and processing agent sold by the General Dyestuff Corporation, New York. It is recommended for scouring cellulose fibers. It is resistant to hard water and to metallic salts. does not hydrolyze and is easily rinsed out of fabric. *Am. Dyestuff Reporter* **27,** 477-8 (1938).

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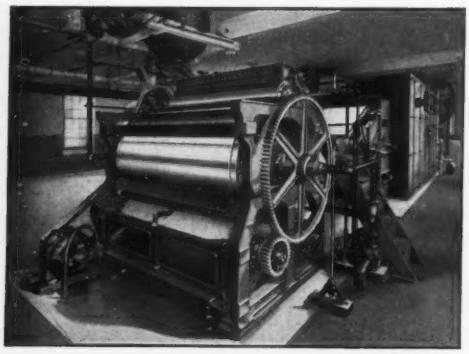

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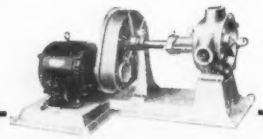

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Bottle Washing

Minimum requirements for the cleansing of beverage bottles mechanically are: Unclean bottles shall be exposed to a 3 per cent alkali solution of which not less than 60 per cent is caustic soda, for a period of not less than 5 minutes at a temperature of not less than 130° F., or to an equivalent cleansing and sterilizing process. The use of tablet titrations facilitates the determination of total alkalinity and caustic alkalinity in bottling plants where chemists are not available. For the determination of total alkalinity, a tablet consisting of potassium acid sulfate and the indicator tetrabromophenolsulfonphthalein is employed. For the determination of caustic alkalinity, which is considered the essential ingredient in bottle-washing compounds, the procedure is similar except (1) a tablet of barium chloride is first added to the test solution to precipitate the carbonates and phosphates and most of the silicates which may be present; (2) the indicator employed is Tropeolin 0; and (3) the quantity of potassium acid sulfate present in each tablet is sufficient to neutralize the caustic alkalinity equivalent to 0.5 per cent of caustic soda. The color of the indicator is deep red-orange in alkaline and yellow in acid solution. For caustic soda at a constant temperature, the logarithm of the concentration of caustic employed is inversely proportional to the logarithm of the killing time. Max Levine. *Food Research* **3,** 141-8 (1938).

Study of Whale Oils

Whale oils of 3 different kinds, from the hump whale, the blue whale and the fin whale, from various feeding grounds, and collected in a number of different years, were studied as to their content of saturated fatty acids. The results of the analyses show that the amounts of these acids differ but little in the various types of oils, and have values lying between 18 and 23 per cent. The content of saturated fatty acids in oils from the fin whale appears to be somewhat lower than in oils from the other two kinds of whales. Neither the region from which the catch is taken nor the condition of nourishment of the whales, plays any marked role. A difference was found in the oils from the various parts of the body,—oil from around the intestines contained smaller amounts of saturated fatty acids than the bone and flesh oils. J. Lund. *Fette und Seifen* **45,** 290-2 (1938).

Oxygen Bubble Bath

As catalyst for the production of oxygen from sodium perborate when used for making an oxygen bubble bath, manganese sulfate, potassium bitartrate, or manganese borate may be used in the proportion of 30-35 parts of catalyst to 300 parts of sodium perborate. Potassium permanganate is also used but it colors the bath water, making it somewhat brown. Organic materials such as hemoglogin and metallic saccharates also serve as catalysts for oxygen-producing compounds. *Seifensieder-Ztg.* **65,** 362 (1938).

Water Treatment of Fat

Fats and oils are converted to fatty acids and glycerine by producing an intimate contact between the fatty material and water flowing in countercurrent at a sufficiently high temperature and pressure to cause the fatty material to dissolve more water than that required for the saponification. The temperature used is generally above 100° C. E. g., for coconut oil a temperature of 235-45° C. and a pressure of 17.5 kg. above the pressure of saturated steam at that temperature may be used. Colgate-Palmolive-Peet Co. French Patent No. 822,503.

Granulated Waxes

Waxes are obtained as fine powder by treating the molten wax with an aqueous solution or dispersion of an emulsifying agent to form a wax emulsion which is then diluted and cooled to below the melting point of the wax. Frank G. Gilder and F. W. Gilder & Co. Ltd. British Patent No. 477,280.

Oil Refining

Oils and fats, especially those of animal or vegetable origin, are refined and decolorized by treatment at a low temperature with a small amount of finely divided metals, metal oxides or metal salts and, after prolonged stirring, by adding a small amount of sulfuric acid or nitric acid and warming to 90° C., adding bleaching earth and filtering. Thus, Congo palm oil is cooled to a temperature near its congealing point and a small amount of manganese dioxide stirred in. When a green coloration appears, a small amount of sulfuric acid is stirred in and the mixture heated to 90° C. Bleaching earth is then stirred in and the oil filtered. Eugene Kellens. German Patent No. 657,888.

Apparatus for Purifying Oils

An apparatus for the heat treatment of fatty oils in contact with steam, particularly for deodorizing, improving the color, or polymerizing vegetable oils, comprises an oil vessel, a heater outside the oil vessel, an ascending circulating-pipe connecting the lower part of the oil vessel to the heater, an oil-return pipe connecting the heater to the oil vessel, a vapor-outlet connection from the heater and a steam jet or steam injector in the lower part of the ascending circulating-pipe. John Stewart. British Patent No. 477,717.

Fatty Acid Titrations

Isopropyl alcohol is suggested for use as a solvent in free fatty acid titrations in place of specially denatured alcohol, formula No. 30. This substitution would eliminate the necessity of special alcohol permits and bonds. Isopropyl alcohol is added directly to an oil such as cottonseed oil, in the titrating flask. A series of comparative results with special denatured alcohol and isopropyl alcohol as solvents, shows very close agreement. The price quoted for 99 per cent isopropyl alcohol by volume is 41 cents per gallon. G. Worthen Agee. *Oil & Soap,* **15,** 189-90 (1938).

Laundry Practice

The two factors to which most attention should be paid with regard to the bleach are the quantity and the temperature used. There is a widespread tendency to standardize on 2-3 quarts of 1 per cent bleach per 100 pounds of work. Actually, certain types of washing require more than this, but also there are tens of thousands of loads of work in which considerably less than 2 quarts of bleach are sufficient. This is a matter to be determined by trial in the individual plant. As to temperature, bleaching above 150° F. is a dangerous practice. A temperature of about 140° F. is recommended for the usual type of white work. The pH should be kept up to 9-11 in laundry bleaching, as too low a pH results in too rapid release of the available chlorine, with the danger of further and further additions of bleach being made. Above a pH of 11, the available chlorine is released too slowly, resulting in incomplete bleaching and an excessive number of "go-backs." At a happy mean of 10-10.5 and a temperature of not over 150° F., the rate of bleaching is sufficiently controlled to give satisfactory results.

Demonstrations were carried out with pieces of unbleached cotton to illustrate wetting-out. When the cotton was placed on water, the wetting was very slow and the cloth remained on top of the water almost indefinitely, owing to the fact that the water does not displace the air present in the cloth. Using a 0.2 per cent solution of low titre olive oil soap, the discs sank in 16-20 seconds. Olive-oil soap is therefore a good wetting-out agent. When a 0.1 per cent solution of a sulfated fatty alcohol was substituted, the time of sinking was about the same as for the olive oil soap. These experiments, run at a temperature not very much below that of the break, showed that a low titre soap or a sulfated fatty alcohol have good wetting-out properties. Since in the break there is acid soil to contend with which tends to "kill" soap, the effect of the addition of soda ash to the olive oil soap solution is of interest. The demonstration showed that the soda ash decreased the wetting-out ability of the olive oil soap, but increased the wetting-out properties of the sulfated fatty alcohol solution. The latter plus soda ash can be considered efficient from the point of view of neutralizing the acid soil present and securing good wetting-out. C. H. Bayley. *Laundry & Dry Cleaning J. of Canada*, July 1938.

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Sulfonated Oil Analysis

Proposed methods for the chemical analysis of sulfonated and sulfated oils include the following: Water is determined by distillation from the oil with xylene and oleic acid. Moisture and volatile matter are determined by heating in an open beaker in the presence of oleic acid. Organically combined SO_3 is determined by titration with 0.5 *N* sulfuric acid, and also by separating the fatty matter from the oil with a solvent, and titrating with sulfuric acid; it is also determined by separating the fatty matter from the oil with a solvent, acidifying and washing with saturated brine, and ashing the purified extract. The total desulfated fatty matter is determined in the sulfated oil by decomposition with dilute mineral acids and extraction of the decomposed fat. This method is not applicable to samples that are not completely decomposed upon boiling with mineral acids.

The total active ingredients are determined by extracting the undecomposed sulfonated or sulfated fat and other fatty matter over an acidified concentrated salt solution. Free alkali or alkali bound as soap is not included. The unsaponifiable nonvolatile matter is determined by saponifying the desulfated fatty matter and extracting the unsaponifiable matter from the soap solution with ether.

Inorganic salts, sulfates, chlorides and other salts insoluble in a mixture of oleic acid and carbon tetrachloride are determined by dehydrating the sample, dissolving in a solvent, filtering and weighing the residue. The total alkalinity is determined by titration with mineral acid and methyl orange as indicator. Ammonia is determined by boiling the sample with alkali and titrating the residue for loss of alkali. The acidity is determined in the presence of ammonium and triethanolamine soaps by calculation from the total alkalinity and the free and alkali-combined fatty acids. H. P. Trevithick, et al. Proc. Am. Soc. Testing Materials **37,** Pt. I, 457-76.

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Phosphorus on Catalysts

Since the poisoning of nickel catalysts in the hydrogenation of oils is traced to phosphorus, it was of interest to investigate whether definite phosphorus compounds and phosphorus concentrations are specific in their deactivating effect. To this end nickel catalysts were prepared with the additions of a number of phosphorous-containing substances in various concentrations to a hot 50 per cent solution of nickel sulfate, and precipitation with sodium formate. The catalyst was washed with water and dried at 65° C. The activity of the cataysts was tested by the melting points of the fat mixtures obtained by hydrogenating 100 cc. of cottonseed oil with 0.15 gram of catalyst, based on its nickel content, at 240-50° C. for 1 hour. The results were compared with those obtained by hydrogenation with a pure nickel formate catalyst. Expressed in the phosphorus percentage, disodium orthophosphate (0.15-2.7), ferric phosphate (0.0-0.56), disodium orthophosphite (0.35-0.77), lecithin (1.01-3) and phytin (1.3-1.42) produced no deactivation of the catalyst. M. Smolina. *Maśloboino Zhirovoe Delo* **14,** No. 2, 11 (1938); through Chem. Abs.

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Distilled Babassu Oil

Babassu fat can be distilled, like coconut oil, in a cathode light vacuum. It was shown that the most readily soluble oleic acid rich portion of the distillate contained besides oleic acid also myristic, lauric and caprylic acids. The distillation residue contained glycerides of oleic, stearic, myristic, lauric and caprylic acids. A. Bömer and H. Hüttig. *Z. Untersuch. Lebensm.* **75,** 1-33 (1938); through Chem. Abs.

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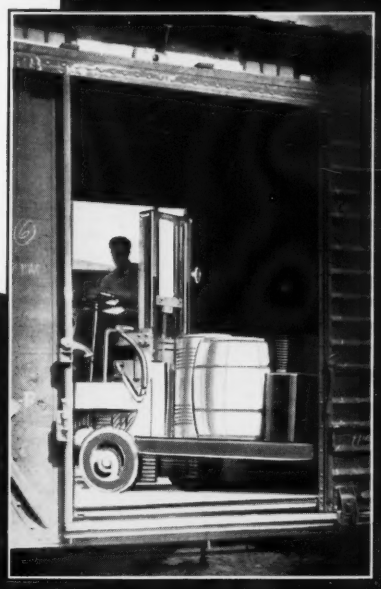

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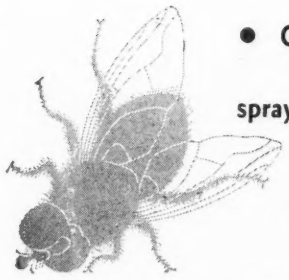

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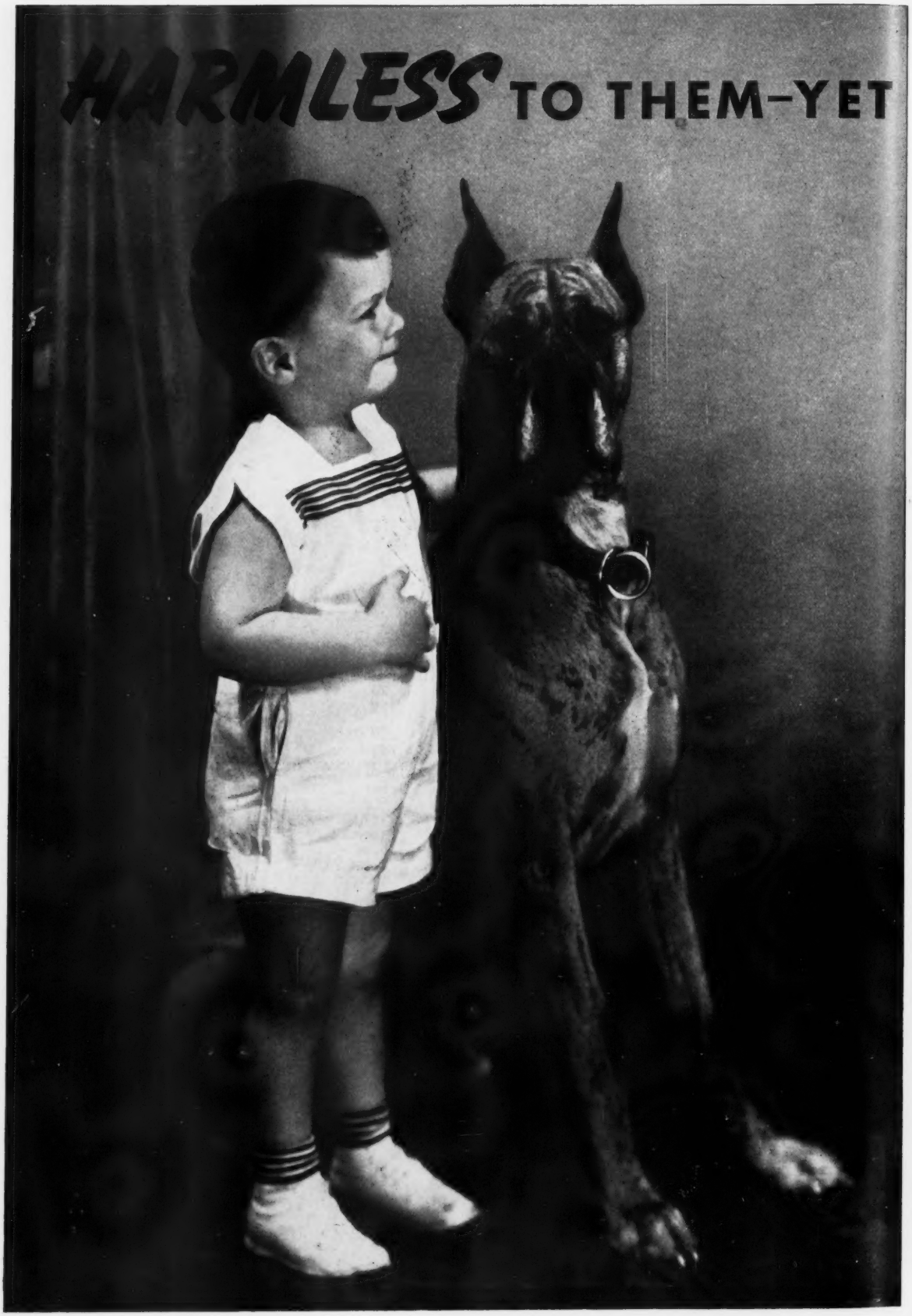
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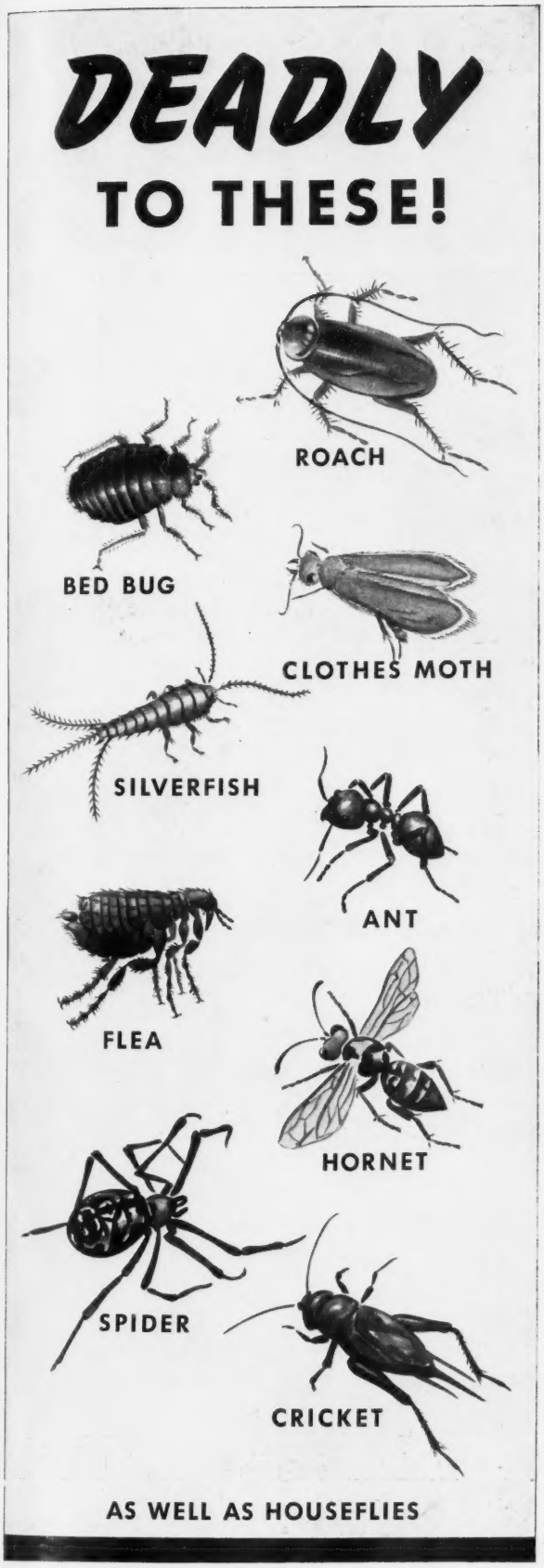

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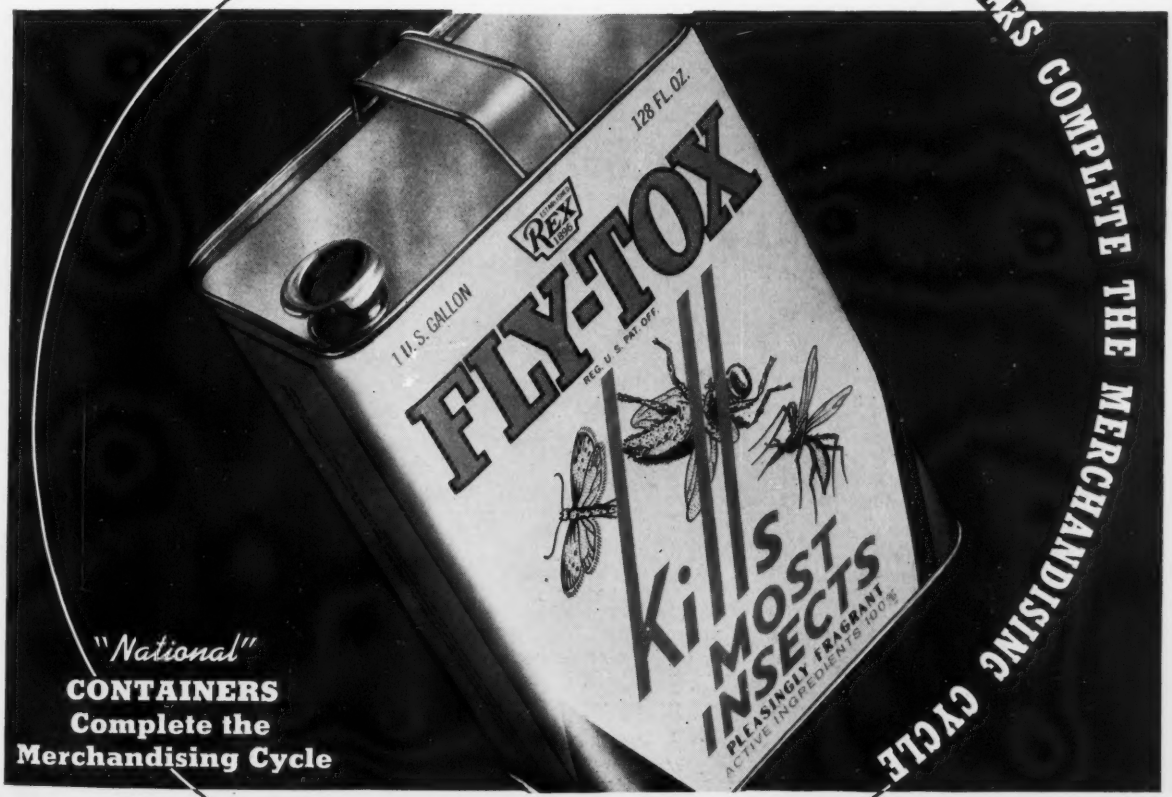

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Sanitary Products

A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

REPORTS in the daily press of the death of an elderly woman in Worcester, Mass. attributed by the local medical examiner to the inhalation of a fly spray, have caused considerable concern among household insecticide manufacturers. This is the first case of which we have ever heard where the cause of death was given officially as resulting from the use of a fly spray. The damage which might result from such publicity to every spray on the market, is obvious and needs no further comment.

We are checking further into the details of this unfortunate occurrence, as is the National Association of Insecticide & Disinfectant Manufacturers. We have been informed that the ingredient of the spray which was specifically charged with the death,—with old age a contributing factor,—is nitrobenzene, otherwise known as oil of mirbane. Needless to say, mirbane has no place in an insect spray. And none but the cheapest and poorest would contain it. So, it appears, one more case is added to the list where a maker of cheap, cut-corner goods damages a whole industry.

AND going further into the use of nitrobenzene as a "perfume" in fly sprays and other spray products, let it be pointed out that any manufacturer who still continues to market such a product, should after this case in Massachusetts, lose no time in making obvious changes. Time after time, we have warned against the use of mirbane in sprays. It is a dangerous product when inhaled in anything except minute quantities. It is used only because it is the cheapest and most powerful thing known to cover kerosene odor. Its use has been confined mostly to cheap bedbug liquids, and to the poorest fly sprays, usually private brand, to meet a price market. Its only virtue is cheapness,—and that is obviously not worth the risk of its use.

PEOPLE are prone to classify all insecticides as worthless when one proves to be ineffective. In pointing out repeatedly the need for greater standardization of insecticide and allied materials, a prominent entomologist recently gave some rather striking examples. He tested a supposedly freshly milled pyrethrum powder against roaches and found it considerably less effective than a product over a year old. He tells of a derris purchase, based on four per cent rotenone, where one sample tested one per cent and another ten per cent rotenone. He tells of many samples of squill which gave little or no rodent control, not because squill is ineffective, but because the squill in question was of very poor quality. He gives other examples, but they all point to the same need,—standardization.

To set standards as a means of barring out sub-quality goods is just plain good sense for any industry which desires to protect its interests from the depredations of chiselers. Practical standards have been set for liquid fly spray and some disinfectants. The sooner this is extended into other products, the sooner will these wild variations in quality be eliminated, to the benefit of the producer of standard merchandise.

Evaluation of Modern

WAX POLISHES

By Charles S. Glickman

DISCUSSION of emulsion wax polishes in the technical literature has not been extensive up to this time. Probably this is due to the comparative newness of emulsion waxes and to the commercial associations of those who have been qualified to discuss them authoritatively. Those papers which have been noted include discussions by Jarden, Tyler, and the author. These have covered principally preparation, composition, patents, performance, and to a limited extent, testing. It is the intention here not to review what has been published before, but to go into developments since the foregoing, and into the matters of analysis and practical evaluation of emulsion waxes. This will also give opportunity to compare the newer products with the older paste and liquid solvent waxes.

Of necessity, it must be recognized that there are but three general classes of wax polishes on the market today. Two of these are important, but the third is mentioned not because of its broad sale, but because it represents an intermediate stage in the development of the modern water emulsion wax. The three classes are broadly (1) paste and liquid solvent waxes, (2) viscous water emulsion wax liquids which require buffing, and (3) the highly dispersed colloidal self-polishing water wax characterized by low viscosity and color ranging from deep gray or brown to white. Other types are those subject to minor variations such as the addition of dyes or other ingredients for special purposes.

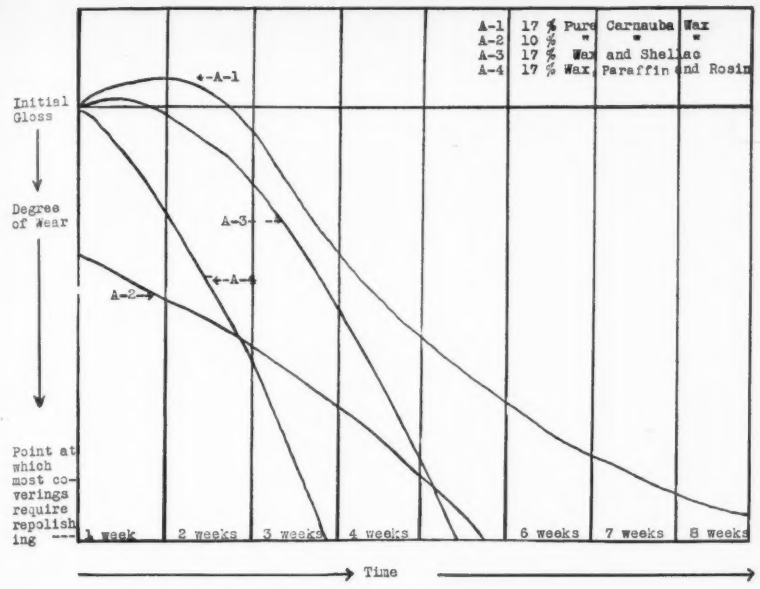
As these various classes of products differ in their appearance and chemical composition, so do they differ in their mode of treatment after application and in certain specific cases, their individual application for certain purposes. For example, water emulsion polishes do not generally give good results as a furniture polish, yet paste or liquid solvent waxes, or even the viscous type of emulsion wax, give proper results even though they require buffing. On the other hand, some of these uses are universal for all products although their subsequent treatment following application may differ as in the use as a floor polish of any of the three classes. The use of paste or liquid solvent waxes is, of course, accompanied by some degree of hazard due to the inherent inflammability of the solvent used. Furthermore, a certain degree of buffing, either mechanical or manual, is required to secure the final lustre. The life of a film resulting from such a treatment is generally an extended one, especially in the case of the paste type, because of the high wax concentration present.

On the other hand, we find that the viscous emulsion type of product such as is used for leather, furniture or automobile polishing, is generally free from the inflammability hazard and although the amount of wax present may be equal to that of the paste type, the presence of soap tends to reduce the general level of performance. The life of such an application is not as extended as in the case of the paste product, but this may be offset in part by the advantages of simpler application and easier buffing to maximum lustre.

The self-polishing emulsion waxes usually are free from the necessity of buffing to attain a satisfactory gloss. These products are likewise characterized by complete freedom from any fire hazard. Their life and use are generally limited by their composition and type of application. A peculiar phenomenon in the use of a product of this type as an automobile polish is that despite the absence of any marked degree of water resistance of a particular wax when used on linoleum, a complete reversal of form was experienced when it was applied to a metallic lacquered surface.

The effect obtained from the use of this product was fully equal in gloss, ease of application, and wear to the older and more common type of automobile polish which is primarily a solvent paste wax. The finish was carefully observed over a period of several months extending through the winter. No failure of the film coating could be observed whether due to weathering, the action of heat, sleet, rain or snow. Neither did

ILLUSTRATING RELATIVE DEGREE OF WEAR



the surface of the car show any reaction, solvent or corrosive, occurring because of the presence of alkalies in the polish.

All three general classes of polishes have in common the fact that their main ingredients are for the most part waxes. Of course, the fact that these waxes differ in their respective grades, colors, kinds, uses and properties is well known. In certain cases, however, there are present such foreign ingredients as shellac or rosin which while definitely not waxes, are sometimes used in conjunction with the latter for purposes of adulteration or the supposed creation of special effects.

In the first type of product, the paste wax, the components are generally two in number. They are a blend of waxes mixed with a solvent or blend of solvents. The creamy type of wax emulsion contains wax or a blend of waxes, water, soap and sometimes small amounts of solvents. Dyes are also often present in the first type and oftentimes in the second type. The last and most important type, the non-rubbing emulsion, contains waxes, shellac (in almost every case), rosin in certain cases, and a soap or other protective colloid together with certain small amounts of additional alkalies. Oils such as pine oil or perfume oils may be likewise found in small amounts as these latter are often employed for perfuming or even leveling effects.

As was mentioned previously, the paste and liquid solvent polishes are composed of a blend of waxes dissolved in a solvent from which they have been permitted to recrystallize under controlled conditions. The amount of wax to be found in this type of product varies from a low of 25% to as high as 35%, although some products have been encountered which run as high as 40%. The solvent composition is generally a V.M.P. naphtha or else Stoddard solvent to which there may or may not be added certain small amounts of special solvent having rapid evaporation rates or high solubility on the wax component. Turpentine, for example, is encountered in the ratio of from 1 part to 6 to 14 parts of naphtha. The melting point of the wax blends generally ranges from about 160-170 degrees F.

Liquid solvent preparations range in wax content from 5-12 per cent. In either case, whether the product be a paste or a liquid, the waxes invariably encountered are among the following: carnauba, candelilla, montan, ozokerite, paraffin or synthetic waxes.[4] The ratio of hard to soft waxes, or to take an abstract case with carnauba and paraffin, may range from 60-40 to 40-60. The probable reasons for such blends were previously outlined by the author.[5] In still other cases, however, such additional components as resin, natural gums or resins, synthetic plastics or even rubber may be incorporated in an effort to obtain harder films, films with greater wearing power, and reduced slipperiness.

The following Table I was derived from data obtained by the author from the laboratory examination of twelve of the leading brands of water emulsion wax polishes obtainable in department stores, etc. The table is divided into two sections and indicates the relative amounts of non-volatile solids as well as the specific amount of the four main ingredients calculated from a dry basis analysis. For purposes of further relative comparison, the standard formulae for the preparation of the triethanolamine and also the morpholine products are likewise made a part of the record.

Examination of the data will reveal that the solids content in these products varies from a low of 11.58 to a high of 17.59%. The amount of pure carnauba wax available in the dried and extracted non-volatile residue ranges from as low as 61 to as high as 73%. The soap content likewise varies from 12 to 27%; borax and ammonia being excluded from this estimate of soap. Shellac was found to be present in a range of from 6 to 27% and borax was found to vary from 3-6%. For purposes of further comparison the average value for each of the specific items was calculated and indicated in the table.

The ratio of wax to soap and wax to shellac was likewise indicated. This wax-soap ratio ranged from a value as low as 2.6 to 1 to a value as high as 4.56 to 1. The average value estimated for commercial samples being 4 to 1. The wax-shellac ratio was found to average 5.38 for the twelve commercial samples ex-

amined and ranged individually from a low of 2 to 1 to a high of 11.68 to 1.

The Individual Waxes

Sample No. 1: This product is slightly lower in solids content than the triethanolamine formula which will be referred to hereafter as the standard. It is somewhat lower in wax content, borax content and higher in soap and shellac content. It yields as fine a gloss as can be expected, but exhibits the same relative lowered water resistance that is present in the standard formula.

Sample No. 2: This brand is lower both in solids content and shellac but higher in shellac. The soap content is practically the same as the standard. Both the wax-soap and the wax-shellac ratios are consequently higher. The color and odor are likewise comparable with the standard. The gloss and water resistance are somewhat below the level of the standard.

Sample No. 3: A lower solids content, shellac content and a higher wax-soap and wax shellac ratio and wax content serve to characterize this neutral odored gray colored product. The gloss and low shellac content serve to make this a product of merit.

Sample No. 4: The borax, wax, wax-soap and wax-shellac ratios of this brand are higher than the standard although the gloss is below the standard. The odor is that of pine oil. The wearing properties of this product are below par.

Sample No. 5: The wax and soap ratios of this product are lower than the standard while the shellac present is greater. The odor is neutral and the gloss lower. In wearing ability, this product has shown itself to be fair.

Sample No. 6: This product shows a higher shellac content while the borax, wax and soap contents about match the standard. The ratios of wax-shellac and wax-soap are both higher than the standard. The odor is that of pine oil and the color, brown. The product shows good wearing power and high gloss.

Sample No. 7: This brand is quite close to the standard in its composition. Its color and odor are likewise similar although its gloss value is somewhat lower. On performance, this sample exhibited fair resistance to wear of an order similar to that of the standard. Its water resistance was also similar.

Sample No. 8: This particular brand of wax, while of an extremely high solids content, neutral color and odor, showed a rather short life when exposed to wear. The shellac content was considerably higher than the standard, and the wax content lower. The general performance of this product is in line with the other products manufactured by the same firm, being in the lower priced field.

Sample No. 9: This product shows a resistance to wear fully as good as any product examined to date. The wax content is higher than usual as is the shellac. The soap content comes within 1% of the lowest for any product examined. The water resistance of this product is also considerably higher than that usually encountered with the standard formula.

Sample No. 10: This is a typical morpholine preparation and its color and odor bear out this fact. The masking of the morpholine odor is accomplished as usual with pine oil. However, it does not exhibit the good gloss attainable with this type of preparation, a fault commonly encountered where the production chemist is reluctant to operate the process at a high enough temperature to insure the maximum disper-

(*Turn to Page* 101)

TABLE 1

Sample	*Color*	*Odor*	*Gloss (a)*	*% Solids (b)*
1	Tan	Neutral	15	16.08
2	Gray	Neutral	14	13.22
3	Gray	Neutral	15	15.71
4	Brown	Pine Oil	13	13.48
5	Gray	Neutral	13	16.92
6	Brown	Pine Oil	14.5	16.21
7	Gray	Neutral	12	16.89
8	Tan	Neutral	13.5	17.59
9	Gray	Pine Oil (c)	13	15.59
10	Tan	Pine Oil (c)	11.5	14.52
11	White	Pine Oil (c)	11.5	11.58
12	White	Perfumed (d)	10	13.99
Average	....	.....	13.5	15.14
Triethanolamine	Gray (e)	Neutral	15	16.82
Morpholine	Gray (e)	Ammoniacal	15	17.54

	Dry Basis Calculation					
Sample	*% Borax*	*% Wax (f)*	*% Soap*	*% Shellac*	*Wax Soap*	*Wax-Lac*
1	4	64	17	15	3.76:1	4.26:1
2	4	73	16	7	4.56:1	10.43:1
3	5	70	19	6	3.68:1	11.68:1
4	6	68	18	8	3.77:1	11.33:1
5	4	54	15	27	3.6:1	2:1
6	4	54	16	26	3.37:1	2.08:1
7	4	68	16	12	4.25:1	5.66:1
8	4	61	17	18	3.58:1	3.38:1
9	3	70	12	15	5.83:1	4.66:1
10	—	65	25	10	2.6:1	6.5:1
11	3	62	11	24	5.63:1	2.58:1
12	6	73	21	—	3.47:1	———
Average	4	65	17	14	4.01:1	5.38:1
Trieth' (e)	5	66	18	11	3.66:1	6.00:1
Morpho' (e)	—	64	27	9	2.37:1	7.11:1

(a) This value was determined by means of a photo-electric device developed by the author.
(b) This value is based upon the determination of all non-volatile matter at a temperature of 105 degrees C.
(c) The pine oil present in these samples was accompanied by a definitely discernible odor of ammonia.
(d) The perfume in this product was a blend of essential oils.
(e) These are the standard formulae supplied by the Carbide & Carbon Chemicals Corp. The finished products were also obtained as samples made by Carbide and Carbon in accordance, presumably, with their own directions.
(f) The wax is meant to be anhydrous wax.
NOTE: The dry basis calculations are determined purely upon the weight of dehydrated residue obtained from the volatility test yielding the total non-volatile solids.
NOTE: The averages indicated are representative of the figures above each indicated item.

View of insectary showing screened porch. A are stock cages, 18 inches long and 8 inches square at ends. B is culture drum, 5 gallon size.

Breeding Houseflies

A simplified and more convenient method of rearing and handling flies for Peet-Grady Tests

By Dr. E. G. Thomssen and Dr. M. H. Doner

The J. R. Watkins Company

ANYONE who has had to breed and handle houseflies for the Peet-Grady chamber realizes that even under the best conditions, it is not the most desirable work. The method of rearing flies by the Official Method is not entirely satisfactory for carrying-out of the operation to cover all conditions. It requires considerable attention and in many cases costly installations for certain manufacturers. By the Official Method[1,2] battery or rearing jars, rather small in size, are recommended to hold the fly food. If flies in large quantities and of proper age for testing are required to meet the daily needs, it is very necessary that many culture or battery jars are required in order to carry on the operation smoothly.

With the adoption of the Official Test Insecticide by the N.A.I.D.M., it is essential to run a large number of tests for the proper scientific evaluation of the toxicity of a fly spray unknown upon the housefly, *Musca domestica*, as against the Official Test Insecticide. This obviously necessitates having available a great number of flies of proper age whenever the test is to be made. To rear flies by the official method for this purpose requires, as we have already stated, not only extensive installations but also the services of an entomologist to supervise the propagation of the flies under proper conditions.

In the manufacture of fly spray, there are undoubtedly many smaller manufacturers who cannot afford the services of an entomologist and the installations necessary to carry on the breeding of flies by strict adherence to the official method. In our own laboratory we were faced with the problem of manufacturing fly spray at six different points in the United States and Canada and in having to control the quality of the spray from one central point, at our main laboratory in the central west. Some of these branches make only limited quantities of insecticides. At first we attempted the procedure of controlling each batch of

insecticide by having samples sent from the various branches to the control laboratory and then informing the branches through the tests made whether or not the particular batch of spray was up to specifications. This method was slow, tedious and involved a great deal of correspondence, telegraphing and telephoning. We were soon convinced that we must have some more simple and economical way of handling our problem. As a result of this, we decided to work out a more simple method of breeding flies which could be carried out under the supervision of the chemists or superintendents in charge of our various branches and which would not require the great amount of detailed supervision necessary to breed flies.

We believe that the method of fly propagation we developed is much simpler, more economical and breeds healthier flies than that outlined in the official method. Before we adopted this method generally, we took the precaution of checking our results upon the flies bred by our method with three laboratories of recognized efficiency who were breeding their flies as outlined in the official methods. We found that the outside laboratories' results checked remarkably well with those which we obtained in the official lethal chamber. We, therefore, have been using our methof of fly breeding in conjunction with the official Peet-Grady chamber for a period of years with excellent results and are enabled thereby to control the quality of our liquid insecticide at our various manufacturing branches with an economical certainty which recommends the rearing method in other plants where it can be put to use.

Our main Peet-Grady laboratory is a room of tight construction, measuring 18 feet long, 12 feet wide and 9 feet high. It may be smaller if less space is available. The insectary proper is situated in a corner of the laboratory and has the following dimensions: length, 10 feet; width, 6 feet; height, 6 feet. It is completely lined with tin except for a large screened opening facing a southern window in the laboratory for maximum sunlight admittance. Attached to the insectary is a screened porch for the purpose of hindering the escape of flies from the insectary into the laboratory. Movable shelves are provided along two sides of the insectary for conveniently holding the culture pails, stock cages and other necessary equipment.

A temperature of 80°F. in the laboratory, which holds also for the insectary, is kept within fairly constant limits by the use of an automatic thermostat attached to the incoming heating line. If, as happens occasionally, the heating system in the plant is lowered below that necessary to maintain the proper temperature in the insectary, a special, inexpensive temperature control device, accurate within a five-degree range, is employed within the insectary. It consists of two thermostats and two series of electric lights arranged in parallel. The two inexpensive thermostats are bimetallic strips adjusted between two points of contact. The difference in the coefficient of expansion of the two metals composing the bimetallic strip respond to temperature changes. This thermostat is connected to a group of light bulbs in parallel, is set for a certain temperature, which, when reached, automatically cuts off the current to the light bulbs. The voltage of the bulbs or the number of bulbs used may be varied until the correct temperature is obtained within the room. A second thermostat, set up in practically the same way as the one just described, is used as an auxiliary unit, to function in case of failure of the first unit. Its temperature control point is set approximately 10° lower than the first unit, a temperature sufficiently high to prevent destruction of the culture.

The humidity in the insectary is kept at satisfactory levels by the moisture given off from the culture or rearing pails.

Culture Procedure: As indicated above, the usually - employed battery jars are dispensed with in lieu of five-gallon drums. Richardson's special formula[3] is used in preference to manure or other materials. When it is desired to charge a pail with maggots, a small glass vessel containing moistened bran is placed in a cage of gravid females. After oviposition a general given number of these eggs are transferred to the mixture in the culture pails. The pail is then closed off by a cage that fits snugly into a tightly-constructed frame placed over the pail.

The stock cages also employed for capturing the emerging flies are somewhat similar to other types of cages used in other laboratories. They are 18 inches long and 8 inches square at the end, screened on five sides. A sliding piece of tin serves as the door. The cages are treated with aluminum paint and at frequent intervals are subjected to a thorough cleaning.

During the period of emergence the cages of newly-emerged flies are removed, dated and substituted with other cages for the subsequent 24-hour fly emergence. When the emergence is at its height the flies are divided up into two or more cages so as to prevent over-crowding.

In the handling of the emergence cage, flies will inevitably escape into the insectary. These are readily killed by using the following bait placed in dishes on shelves in the insectary:

> A teaspoonful of 40 per cent formaldehyde thoroughly mixed in a teacupful of water and a teacupful of milk which has been sweetened with brown sugar.

Sex Variations: In general the emergence of flies from a single pail extends over a period of ten days and, unless the pail is too heavily charged with fly maggots, from 4,000 to 5,000 flies emerge. Of interest are the daily sex ratios of flies. These are typically as follows:

Day	*Total Flies*	*Per Cent Males*
1st	96	63.5
2nd	150	64.6
3rd	263	66.5
4th	481	55.3
5th	527	55.9
6th	190	66.8
7th	700	63.8
8th	1657	51.5
9th	293	44.4
10th	588	43.0
11th	156	41.0
	5001	

(*Turn to Page* 101)

Fly Spray Analysis

Pyrethrin determinations in referee samples of insecticide . . . a study of methods by the Pacific Coast Insecticide Association

THE Pacific Coast Insecticide Association* has made a systematic study of certain acid methods for the determination of pyrethrins I and II in household insecticides, both those containing only the pyrethrins as the lethal agent and those to which additional toxic materials such as derris extractives and an organic thiocyanate have been added. The purpose of this study was to determine the comparative merit of methods in common use, notably the procedure suggested by Seil, and the modification of this method proposed by the California State Department of Agriculture; and also to afford the co-operating laboratories the opportunity of having any methods peculiar to their own organizations tried by other analysts. This is the first co-operative work on these analytical methods attempted by the industry, and the results are published as typical of analytical data accumulated by competent chemists working independently.

Very little has been published on the quantitative determination of derris and cube extractives in insecticides. Several of the co-operating laboratories reported figures for rotenone based on the method of Rogers and Calaman (J.I.E.C., Anal. Ed. Vol. 8, page 135), a colorimetric procedure in which standard solutions of pure rotenone are used for comparison, but the results were too erratic to warrant their inclusion in the data. The test is apparently adequate qualitatively, but until further work is done the industry does not have a satisfactory method for rotenone.

Referee samples, bearing identification numbers only and with no information as to contents, were distributed to the laboratories of the companies participating in the study, and all reports and correspondence referred to such samples by their respective code numbers. This investigation by the Pacific Coast Insecticide Association was made possible by the following companies, who have contributed both to the cost of assembling data and the services of analysts in their respective laboratories:

An-Fo Manufacturing Company, Oakland, California
Nico-Dust Manufacturing Company, Los Angeles, California
McCormick & Company, Baltimore, Maryland.
McLaughlin Gormley King Company, Minneapolis, Minnesota
Rohm & Haas Company, Philadelphia, Pennsylvania
Shell Oil Company, San Francisco, California
Socony-Vacuum Oil Company, New York City, N. Y.
Standard Oil Company of California, San Francisco, California
Tide Water Associated Oil Company, San Francisco, California
Union Oil Company of California, Los Angeles, California

Methods Used: The active principles of pyrethrum flowers were isolated and named and their chemical composition and structural formulae determined by Staudinger and Ruzicka in 1916. Since that time numerous methods for the quantitative determination of these substances, pyrethrins I and II, have been developed using the knowledge of their structural formulae as a guide. These methods fall into three groups, namely:

a. Determination of the acids combined with the alcohol pyrethrolon.

b. Methods based on the reducing power of pyrethrolon.

c. Methods based on the Ketone group of pyrethrolon.

Of these, the acid methods, based on titration of the mono- and the di-carboxyllic acids have been found generally to be the most satisfactory and useful, since they permit distinguishing between pyrethrins I and II, which the others do not. Staudinger and Harder, and later Tattersfield, proposed procedures based on separation of the acids, and later Seil described a modification of these earlier methods stated to be shorter and equally accurate. Graham criticized Seil's procedure on the basis of certain experimental work which he carried out, his results indicating that steam distillation of a kerosene extract to remove essential oils results in a loss of pyrethrins due to volatilization and chemical decomposition amount to 25 per cent of the total. Ripert recommended treatment of extracts with an aqueous caustic solution to remove acid bodies other than those from the pyrethrins which would otherwise be titrated as such in the usual acid methods, a point which does not seem to have been previously covered; and finally the California State Division of Chemistry showed that the losses noted by Graham were largely avoidable and did not amount to more than 5-6 per cent.

This brings us up to the point at which our co-operative work on methods was started. The methods

* Report compiled by E. R. de Ong, secretary, 216 Pine St., San Francisco, Calif. V. G. Ryland is president of P. C. I. A.

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Table 1
SUMMARY OF PYRETHRIN DETERMINATIONS IN FLY SPRAY
Sample No. 26342-R: Containing Pyrethrins and Essential Oil
Per Cent by Weight

Method	*Substance Determined*	*Lab. "A" Determination*		*Laboratory "D" Determination*			*Lab. "E" Determ.*	*Lab. "F" Determ.*	*Lab. "G" Determ.*
		No. 1 %	No. 2 %	No. 1 %	No. 2 %	No. 3 %	%	%	%
"A"	Pyrethrin I	.092	.088				0.078	0.091	0.079
Modified	Pyrethrin II	.084	.078				0.082	0.088	0.095
Seil	Total Pyreths.	.176	.166				0.160	0.179	0.174
"C"	Pyrethrin I						0.076	0.088	0.091
Original	Pyrethrin II						0.087	0.070	0.133
Seil	Total Pyreths.						0.163	0.158	0.224
"D"	Pyrethrin I							0.090	0.0935
Supplement	Pyrethrin II								
No. 1	Total Pyreths.								
"D"	Pyrethrin I			.087	.087	.086	0.083	0.096	
Supplement	Pyrethrin II								
No. 2	Total Pyreths.								
"E"	Pyrethrin I	.092	.074				0.062	0.153	
Ripert	Pyrethrin II	.243	.103				0.101	0.234	
	Total Pyreths.	.335	.174				0.163	0.387	
"E"	Pyrethrin I						0.071		
Ripert	Pyrethrin II						0.089		
Modified	Total Pyreths.						0.160		
Wilcoxon	Pyrethrin I	.087	.078						
	Pyrethrin II								
	Total Pyreths.								

used may be described briefly as follows:

Seil Method — Pyrethrins I and II: Most insecticides are perfumed with essential oils which are esters and on saponification would titrate as pyrethrins. It is assumed generally that these are quantitatively volatile with steam, and that the pyrethrins are neither volatilized nor decomposed by this process.

The sample is distilled with steam until the condensate has no odor of essential oil, following which the extract is saponified by refluxing with .5N alcoholic sodium hydroxide, converting the chrysanthemum acids to the water-soluble sodium salts. The kerosene layer is discarded after careful washing; the alcohol is removed by boiling, and the fats, resins, and inert material are precipitated by treatment with 10 per cent barium chloride solution and Filter-Cel. The solution after filtration is acidified with concentrated sulfuric acid, and the mono-carboxyllic acid from pyrethrin I, which is volatile with steam, is separated by steam and distillation, and determined by titration with .02N aqueous sodium hydroxide, 1 cc. of which is equivalent to .0066 gm. pyrethrin I. The dicarboxyllic acid from pyrethrin II is non-volatile with steam, and after various purifying operations it is likewise titrated, 1 cc. being equivalent to .00374 gm. pyrethrin II.

Modified Seil Method (California State Division of Chemistry procedure). Pyrethrins I and II: After steam distilling to remove essential oil and the sample is treated with 50 per cent aqueous sodium hydroxide solution, following which the procedure is much the same as in the regular Seil method, differing only in minor details. Greater care, however, is taken in the two steam distillations to eliminate mechanical loss of pyrethrins and carry-over of the acid from pyrethrin II with that of pyrethrin I, and also to avoid decomposition of pyrethrins by excessive heating. Seil is not particularly specific about this, whereas for the modified procedure satisfactory equipment is described, a distillation rate of 400 cc. of distillate plus water in one hour is prescribed, and details of the distillation procedure are given.

Ripert Method. Pyrethrins I and II: The Ripert method is also based on the titration of the chrysanthemum acids, but a somewhat different procedure is followed and includes a preliminary caustic wash to remove non-pyrethrin acid bodies. The procedure is briefly as follows:

Essential oils are removed by steam distillation until the condensate is free from the odor of these oils, following which the sample is treated with a relatively dilute caustic solution (1N aqueous potassium hydroxide). The pyrethrins are saponified by refluxing with normal methyl alcoholic potassium hydroxide (the Seil and modified Seil methods both use half-normal ethyl alcoholic sodium hydroxide) the alcoholic solution is diluted with water, and the aqueous solution containing the potassium salts of the acids is separated, discarding the kerosine. A 10 per cent solution of barium cloride is then added, plus a little of Filter-Cel, and the filtered mixture is acidified with 1N sulfuric acid; the separated acids are extracted with ethyl ether, and after the ether has been removed by evaporation, neutral ethyl alcohol is added and the mixture of mono- and di-carboxyllic acids is titrated in a balloon flask with .2N alcoholic potassium hydroxide.

Following this titration the solution is acidified with sulfuric acid and steam distilled with superheated steam (at 200° C.) which volatilizes the mono-carboxyllic acids from pyrethrin I. These are then titrated; pyrethrin II is calculated from the difference between the first and second titrations.

Wilcoxon Method. (Modified by Holaday, J.I.E.C. Analytical, Jan. 1938) Pyrethrin I only: This procedure is based on the reduction of mercuric mercury from Denige's reagent to mercurous by the mono-carboxyllic acid, which gives a measure of pyrethrin I.

The sample containing pyrethrins (after removal of essential oils) is saponified with .5N normal sodium hydroxide, the alcoholic solution after separation is diluted, and the alcohol is removed by boiling. A 10 per cent solution of barium cloride and a little Filter-Cel are added; the mixture is filtered, and the clear solution is acidified with sulfuric acid. The separated acids are extracted with petroleum ether,

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Table 2

DEVIATIONS FROM AVERAGE DETERMINATION OF PYRETHRINS I AND II
Sample No. 26342-R: Containing Pyrethrins and Essential Oil

Method	*Material*	*Average Per cent*	*Deviation Plus*	*Minus*
"A" Modified Seil	Pyrethrin I	.085	.005 .002 .026	.007 .006
	Pyrethrin II	.0865	.0015 .0085	.0055 .0045
"C" Original Seil	Pyrethrin I	.085	.001 .005	.009
	Pyrethrin II	.096	.037	.009 .026
"D" Supplement No. 1	Pyrethrin I	.0917	.0018	.0017
	Pyrethrin II			
"D" Supplement No. 2	Pyrethrin I	.089	.007	.006
	Pyrethrin II			
"E" Ripert	Pyrethrin I	.099	.050	.016 .037
	Pyrethrin II	.169	.004 .065	.068
"E" Ripert Modified	Pyrethrin I	.071		
	Pyrethrin II	.089		
Wilcoxon	Pyrethrin I Pyrethrin II	.0825		

discarding the aqueous layer. Up to this point the procedure is practically identical with that prescribed for the earlier acid methods, but from here on it differs. The ether solution of the acids is treated with .1N aqueous sodium hydroxide, giving an aqueous solution of their soda salts, and Denige's mercuric sulfate reagent (USP XI) is added. This reduces the mercury to the monovalent form; and addition of sodium cloride precipitates the reduced mercury as the cloride which is filtered off, washed, etc. The filter is transferred to a flask; hydrocloric acid, chloroform, and iodin monocloride solution are added, and the mixture is titrated with .1 molal potassium iodate solution, 1 cc. of which is equivalent to 4.4 mgm. pyrethrin I.

Conclusions: The results of this co-operative work demonstrate that the Modified Seil procedure is capable of yielding reasonably uniform figures for pyerthrins I and II on a variety of household insecticides, the determinations being made independently by different laboratories. The original Seil method gives fairly consistent results; the Ripert method proved to be unreliable, at least in the form outlined in the translation from *Annales des Falsifications* (Vol. 28, p. 28, et seq.) which was distributed to the co-operating laboratories.

The method used for rotenone (Rogers and Calamert, J.I.E.C. Anal. Ed. 8, p. 135) proved to be unsatisfactory for quantitative results, and until further information is available the industry, to the best of our knowledge, is without a method for the reliable quantitative determination of this constituent. There is likewise no method for determining the various esters of iso-thiocyanic acid, of which lethane was one of the first to come into general use, when they are incorporated in an insecticide and their identity is not known. Using a certain definite thiocyanate in a distillate of known sulfur content it is possible, for control purposes, to refer the sulfur to percentage thiocyanate with reasonable accuracy; but unless the sulfur content of the thiocyanate present is known the calculation is hardly better than a guess.

When it is considered, therefore, that household insecticides can and do contain toxic agents chosen from the wide number now available, or any combination thereof; and that additional ones are continually being developed as the question of an adequate supply of satisfactory pyrethrum flowers becomes more acute, it is obvious that the rating of insecticides on the basis of their pyrethrum content only would be most unsatisfactory and unfair. A biological assay is the only procedure which can be expected to correlate with service value. The expense of building a lethal chamber for such a test and maintaining an insectary are undoubtedly hindering the manufacture and marketing of household insecticides of standardized killing strength, but at present no simple substitute seems to be available.

—— ♦ ——

Chrysanthin in Pyrethrum

In a preparation of pyrethrin oleoresins a crystalline substance, designated chrysanthin, occasionally separates in removal of the solvent from the petroleum ether extract. Chrysanthin, $C_{17}H_{22}O_5$ melts at 201° C. (from ethyl acetate), and is probably identical with a substance of similar name isolated by Chou and Chu from benzene extracts of pyrethrum flowers. On warming with dilute sodium hydroxide solution, chrysanthin forms a pale yellow solution which yields water-soluble products on acidification. Hydrogenation of chrysanthin in alcohol, with platinum, yields dihydrochrysanthin, $C_{17}H_{24}O_5$, melting at 205-8° C. Oxidation of chrysanthin in dilute acetic acid with chromic acid gave dehydrochrysanthin, $C_{17}H_{20}O_5$, melting at 175-7° C. W. Gordon Rose and H. L. Haller. J. Org. Chem. **2**, 484-8.

—— ♦ ——

Allergy to Tung Oil

It has been discovered that some individuals may be allergic to tung oil. This is evidenced by redness, irritation and itching of the skin when the person comes in contact with the vapors from the heated oil. The agent in the oil responsible for the reaction is not known. M. W. Swaney. *Ind. Eng. Chem.* **30**, 514-5 (1938).

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Synthetic Insecticides

A further study of the value of alpha naphthyl isothiocyanate in fly sprays

By Nathaniel Tischler and Joseph Stonis

Kessler Chemical Corp.

THE general physical chemical and physiological properties of alpha naphthyl isothiocyanate[1] were discussed in a previous publication.[2] In the present paper[3] the comparative toxicity of alpha naphthyl isothiocyanate-pyrethrum combination sprays and of straight pyrethrum sprays against house flies is presented. Previous work had established the fact that the action of the synthetic insecticide is too slow to be used alone in the control of house flies although it had also been found that this insecticide can be used alone in the control of clothes moth and carpet beetle larvae.

Some tests were conducted, using alpha naphthyl isothiocyanate in concentrations of ½ per cent, ¾ per cent, and 1 per cent by weight in combination with various concentrations of pyrethrins. Because this preliminary work suggested that at the present comparative costs of the insecticidal bases 1 per cent alpha naphthyl iso thiocyanate enhanced the value of pyrethrins more economically than the lower concentrations, it was decided to determine the curves of toxicity of various concentrations of pyrethrins containing 1 per cent alpha naphthyl isothiocyanate by weight and of pyrethrins alone, using the same sample of pyrethrum extract in each case.

The procedure of conducting tests was in accordance with the revised Peet-Grady method, grey bogus paper being used on the floor. The paper was used on one side for one test; it was reversed for a second test, and then discarded for a fresh sheet. At least ten tests were made for every point plotted on the graph, more tests being made whenever necessary to take care of too wide variations. In every series of tests, the official test insecticide (O.T.I.) of 1938 was included as a test sample. In this way, it was possible to refer all data of toxicity back to the O.T.I. and to adjust the figures of toxicity to a standard kill of 50 per cent for the O.T.I. in accordance with the method of standardization developed by Dr. Jared H. Ford.[4] This method takes into account the variability of fly resistance as expressed by the normal distribution curve and the fact that the proportionality of per cent kill to concentration of insecticide decreases more and more as the percentage of kill approaches 100 per cent from approximately the 50 per cent point.

Tests were made with 1 per cent alpha naphthyl isothiocyanate by weight in combination with various concentrations of pyrethrins and with pyrethrins alone by volume, the source of pyrethrins in both cases being the same pyrethrum extract.[5] In all samples tested, the same deodorized hydrocarbon oil was used as the carrier.

Dr. Alfred Weed, Chairman of the Insecticide Scientific Committee of the National Association of Insecticide & Disinfectant Manufacturers, reported that various chemical laboratories found the O.T.I. of 1938 to be from 92 to 102 mgs. pyrethrins per 100 cc, the closest agreement of three laboratories being 98.5, 100, and 102 mgs.[6] On this basis, the O.T.I. was accepted as 100 gms. pyrethrins for 100 cc.

In three series of tests, the pyrethrum extract used diluted 1 part to 19 parts of the oil gave kill values very close to the O.T.I., thus giving assurance that this concentration of pyrethrum extract was equal in value to the O.T.I. From these data, it was assumed that a dilution of 1:19 also gave an insecticide containing 100 mgs. per 100 cc; and it is on this basis that the curves of toxicity in the accompanying graph are drawn.

Examination of the curve of toxicity of the isothiocyanate-pyrethrum combination shows an initial rapid increase of kill value with relatively small increased amounts of pyrethrins. This clearly indicates two important points: (1) it is necessary to use sufficient pyrethrin content, at least 35 mgs. per 100 cc to make a "B" insecticide as accepted by the N.A.I.D.M.; (2) relatively small increased amounts of pyrethrins which add comparatively small costs give considerably improved insecticides.

The adjusted kill values[4] of pyrethrins alone and of pyrethrins

[1] Manufactured by Kessler Chemical Corp., Philadelphia, under the tradename, Kesscocide 95.

[2] Nathaniel Tischler and Arno Vishoever: "A New Synthetic Insecticide," *Soap*, February, 1938, p. 109.

[3] Acknowledgment is made to Messrs. Frank Roth and William Robertson for their careful work in the routine testing.

[4] Jared H. Ford: "Method for Standardizing Peet-Grady Results," *Soap*, June, 1937, p. 116.

[5] A commercial sample of the so-called 20:1 pyrethrum extract with a guaranteed analysis of 2 gms. per 100 cc.

[6] Letter of May 5, 1938.

[7] This was a sample of pyrethrum extract guaranteed to contain 2 gms. pyrethrins per 100 cc.

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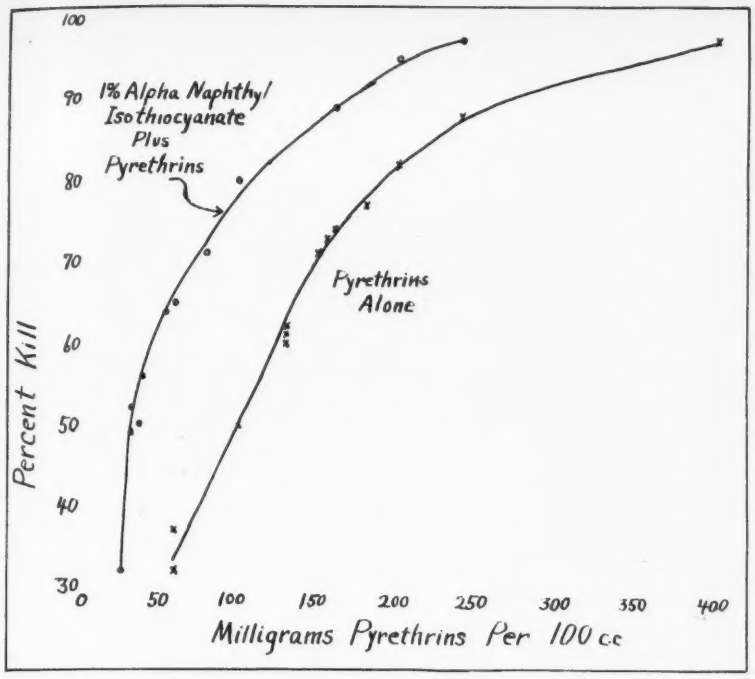


plus 1 per cent alpha naphthyl isothiocyanate are given in Table 1. The "knock-down" of the various formulae generally ran 99-100 per cent, the O.T.I. and the lower concentrations of insecticides occasionally going as low as 97 per cent with the exception of the combination of 27 mgs. pyrethrins plus 1 per cent alpha naphthyl isothiocyanate which gave an average "knock-down" of 85 per cent.

Table I
Comparative Kill of Pyrethrins Alone and Pyrethrins 1% Alpha Naphthyl Isothiocyanate

Pyrethrins Mgs./100 cc.	*Per Cent Dead (Adjusted)* *Pyrethrins alone*	*Pyrethrins—1% Alpha Naphthyl Isothiocyanate*
27	—	32*
33	—	49
37	—	50
40	—	56
55	—	64
60	37	65
80	—	71
100	50	80
130	60	—
150	71	—
155	73	—
160	74	98
180	77	—
200	82	95
240	88	97
400	97	—

* "Knock-down" of this formula was only 85%, that of all the other formulae being 99-100% generally. The O.T.I. and the lower concentrated insecticides occasionally gave a knock down as low as 97%.

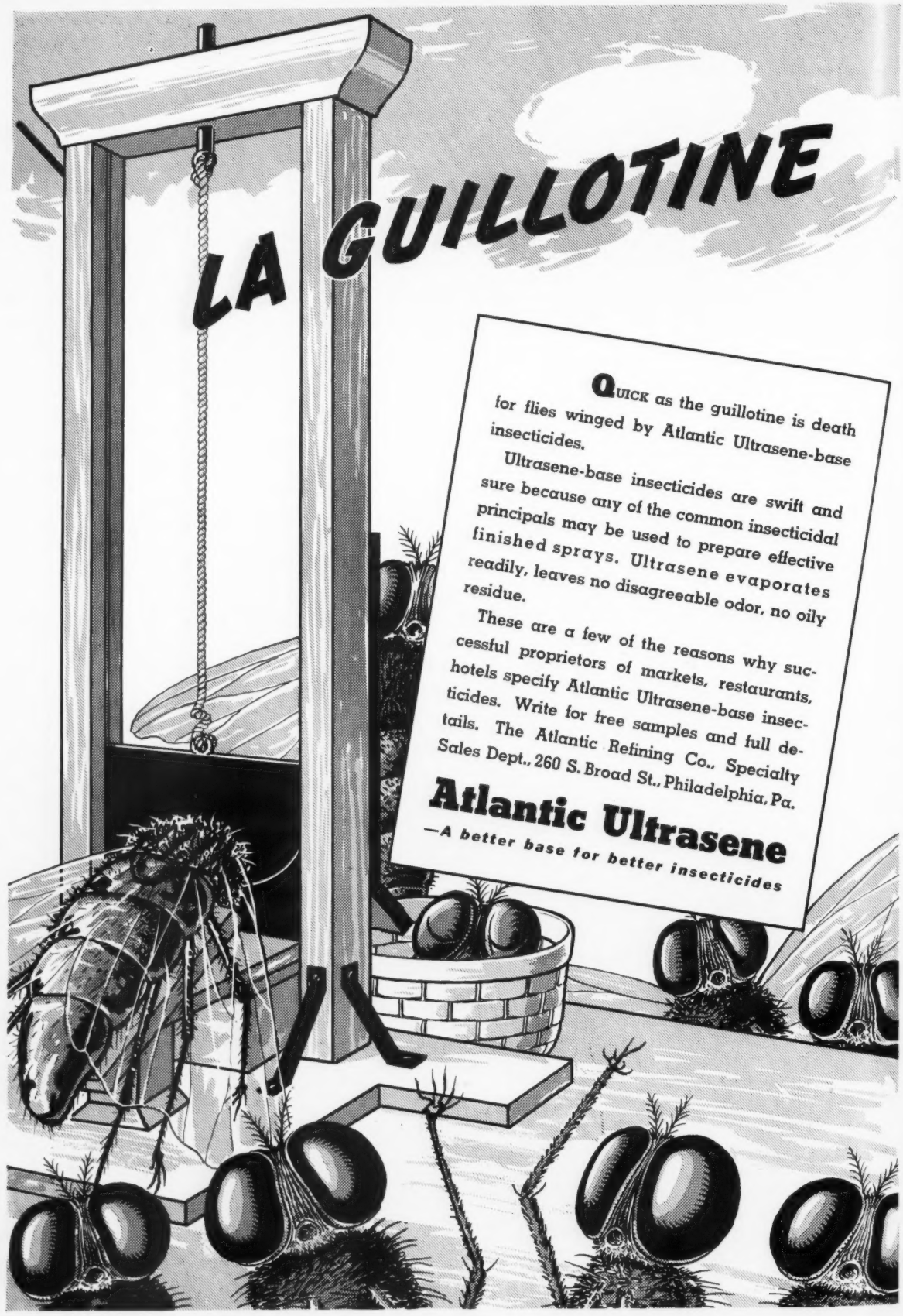
In Table 2 are given the equivalent kill values of the two insecticidal materials taken from the curves and also the amount of pyrethrins that 1 per cent alpha naphthyl isothiocyanate displaces in each combination. Based on actual results, it is suggested that 1 per cent alpha naphthyl isothiocyanate plus 37, 55 and 80 mgs. pyrethrins per 100 cc make a satisfactory "B" grade, an "A" grade, and an "AA" grade insecticide, respectively. Alpha naphthyl isothiocyanate in these combinations replaces 63, 75, and 75 mgs. pyrethrins per cc, respectively. It will be noted that the better the insecticide, the more pyrethrins will 1 per cent alpha naphthyl isothiocyanate replace in an equivalent formula.

Table II
Equivalent Kill Values of Pyrethrins Alone Compared with Pyrethrins Containing 1% Alpha Naphthyl Isothiocyanate

Pyrethrins alone	*Pyrethrins—1% Alpha Naphthyl Isothiocyanate*	*Amount Pyrethrins the 1% Alpha N. Isothio. Displaces*
Mgs./100 cc.	*Mgs./100 cc.*	*Mgs./100 cc.*
100	37	63
130	55	75
155	80	75
180	100	80
205	125	80
245	150	95
350	200	150
400	240	160

In a previous paper,[3] it was reported that 1 per cent alpha naphthyl isothiocyanate plus 0.03 per cent pyrethrins made an "A" grade insecticide. Since this was made by diluting a particular pyrethrum 1 to 59, it contained at least 34 mgs. per 100 cc.[7] a content of pyrethrum in combination with 1 per cent alpha naphthyl isothiocyanate which we now know approximates a "B" grade insecticide, not an "A" grade insecticide. Unfortunately, no biological tests were made comparing this particular sample of pyrethrum at a 1 to 19 dilution with the O.T.I. of 1937 so that no biological evaluation of its comparative kill with the O.T.I. is available. For this reason the correct amount of pyrethrins present in the tested combination spray is unknown. Moreover the O.T.I. of 1937 was reported[6] to have contained approximately 5 mgs. per 100 cc. less pyrethrins than the O.T.I. of 1938. Another possible reason for the comparatively higher kill previously obtained is the fact that at the time 1937 tests were made the sample of alpha naphthyl isothiocyanate then available was considerably less pure than the sample available and used in the present tests. It may well be that part of the higher toxicity was due to the fact that the impurities in the older sample enhanced the toxicity of the synthetic insecticide.

Summary: The curves of toxicity of various concentrations of pyrethrins alone and of pyrethrins containing 1 per cent alpha naphthyl isothiocyanate are given. From the curves equivalent kill values of the two types of insecticides are taken and the amounts of pyrethrins that 1 per cent alpha naphthyl isothiocyanate displaces to give equivalent kill in straight pyrethrum sprays are calculated. It is suggested that 1 per cent alpha naphthyl isothiocyanate plus 37, 55, and 80 mgs. pyrethrins per 100 cc. make a "B," and "A," and an "AA" grade insecticide, respectively.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Determining Pyrethrin I

A new and sensitive method for determining small quantities of pyrethrin I. the principal constituent of pyrethrum. is based on the procedure of Seil for separating chrysanthemum-monocarbozylic acid. The method is specific and very sensitive.

Take about 12.5 grams of the powdered sample and extract in a Soxhlet apparatus with petroleum ether boiling at 30-50° C., for at least 8 hours. Drive off the solvent at a temperature not higher than 60° C. and boil the residue under a reflux condenser with 10-15 cc. of 0.5 Normal sodium hydroxide in ethyl alcohol, for 1-2 hours. Rinse into a 250 cc. measuring flask with about 150 cc. of water. Shake with 1 gram of pure diatomaceous earth, add 10 cc. of 10 per cent barium chloride solution and dilute to volume with water. To 200 cc. of filtered solution add 1 cc. of concentrated sulfuric acid and distil with steam at a rate such that 50 cc. of distillate will be obtained while the solution is only reduced 15-20 cc. in volume. Shake the distillate twice with 50 cc. of pure petroleum ether and then twice with 10 cc. portions of water. In a titrating flask, carefully neutralize 15 cc. of water to phenolphthalein by adding 0.02 Normal sodium hydroxide solution. To this add the petroleum ether extract and titrate with 0.02 Normal sodium hydroxide solution; 1 cc. equals 6.6 mg. of pyrethrin I.

The determination can also be based on a colorimetric comparison. In this case, separate the titrated solution from the lighter petroleum ether and dilute until 1 cc. of solution contains acid equivalent to about 0.1 mg. of pyrethrin I. In a small Erlenmeyer flask add 2.00 cc. of filtered Deniges reagent (5 grams of mercuric oxide dissolved in 20 cc. of concentrated sulfuric acid and 220 cc. of water), add 3.00 cc. of sulfuric acid, density 1.835, cool with ice and add slowly during 1 minute under dim, bluish light 4.00 cc. of the solution of the sodium salt of acid I. Heat the mixture at once to 25° C. and measure in a colorimeter as soon as the precipitate has entirely dissolved at 25°. Filter L 570 may be used at one-minute intervals until the distinction has reached a maximum which sometimes requires about an hour. The concentration is determined by comparison with results obtained with about 60 grams of pyrethrum. Walter Fischer. *Z. anal. Chem.* **113,** 1-8 (1938); through Chem. Abs.

Breeding Houseflies

(*From Page* 90)

If the Official Test Insecticide is not used, and in lieu of the recent research[4,5] which clearly shows the greater resistance of female flies to pyrethrum fly sprays, it is obvious, from the above figures, that it is advisable to discard the flies of the last four or five days of emergence because of the preponderance of females.

Over-stocking the culture pails with eggs eventually results in undersized, undernourished, devitalized flies. Such a condition can best be prevented by roughly counting the eggs introduced into the culture pails as mentioned above.

References Cited

(1) Testing and Grading Insecticides. The Official Method of the National Association of Insecticide & Disinfectant Manufacturers. *Soap Blue Book*, 1938: 147-151.

(2) Grady, A. G., 1928. Studies in Breeding Insects throughout the year for insecticide tests. I. Houseflies (*Musca domestica*). *J. Econ. Ent.* 21 (4): 598-604.

(3) Richardson, H. H., 1932. An efficient medium for rearing houseflies throughout the year. *Science* 76: 350-351.

(4) Simanton, W. A. and Miller, A. C., 1937. Housefly age as a factor in susceptibility to pyrethrum sprays. *J. Econ. Ent.*, 30 (6): 917-921.

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Wax Polishes

(*From Page* 88)

sion. Its wear, however, is satisfactory.

Sample No. 11: This is a brand commonly encountered upon the shelves of the low-priced merchandise chain stores. It has the lowest solids content of any of the samples examined. Its gloss with one exception is also the lowest. The odor of pine oil and ammonia are easily discernible. It is low in wax and soap content and high in shellac. Its performance both from a standpoint of gloss and resistance to wear leaves much to be desired.

Sample No. 12: This product, one of recent introduction to the market, while of high wax content and minus shellac, is characterized by its highly perfumed odor. It is definitely of the triethanolamine type, but due to the presence of high boiling oils and excess perfuming materials yields an extremely poor gloss. The spreading properties of this product are likewise interfered with by the use of excess perfume oils and the soaps required to bring them into the proper form for mutual dispersion with the wax suspension. A test made upon an unperfumed sample of this product bears out these contentions. Its wearing qualities are good.

TABLE 2

Brand No. (a)	*% Carnauba Wax (b)*
1	10.39
2	9.65
3	11.00
4	9.17
5	9.14
6	8.75
7	11.49
8	10.73
9	10.91
10	9.44
11	7.18
12	10.26
Average for above	9.84 (c)
Triethanolamine (d)	11.28
Morpholine (d)	11.23
Paste Wax (e)	12.00
Liquid Wax (f)	6.60
Liquid Wax (g)	4.00

(a) The samples referred to in this table are identical with those referred to in Table 1 and are placed in the same order.
(b) This value termed "% carnauba wax" is meant to indicate the amount of pure carnauba wax available in 100 parts of the sample under examination.
(c) This average is determined from an examination of all the values preceding it.
(d) As mentioned in preceding table, this refers to formula in the literature of Carbide & Carbon Chemicals Corp.
(e) This is a purchased sample which assayed 30% solids in all, and of which 40% was pure carnauba, the balance being unsaponifiable wax of mineral origin.
(f) This was a liquid solvent wax of well known make, assaying 11% total solids of which 60% was carnauba.
(g) This was another well known make of liquid wax which assayed but 8% solids of which 50% was pure carnauba.

Now, compare the above products with examinations of several brands of paste and liquid solvent wax polishes likewise purchased from

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leading department stores. The figures indicated are the amounts of actual wax present in 100 parts of the product under examination. Under the column headed "per cent carnauba wax", the emulsion types range from 7.18-11.49 per cent. On the other hand, the general average for a total of twelve brands is 9.84 per cent and for the standard triethanolamine and standard morpholine formulas 11.28 and 11.23 per cent respectively. The paste wax examined, one selected because of its being so closely representative of the market as a whole, showed a pure carnauba content of 12 per cent which is somewhat higher than the general average for water emulsion polishes and the standard formulae. As a matter of fact, it is higher in pure wax content than any product examined. The liquid solvent wax polishes ranged in carnauba content from 4.6 to 6 per cent.

(*To be concluded in November issue*)

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[1]Jarden, Richards, *Soap*, May, Aug., 1935; Jan., 1936.
[2]Tyler, C. A., *Soap*, Feb., Mar., 1935.
[3]Glickman, C. S., *Soap*, May, June, Dec., 1936.
[4]Glickman, C. S., *Soap*, Sept. Oct., 1936; Mar., 1937.

Soaps for Wood Floors

(*From Page* 31)

react with the potassium compounds in the wood, there is no change in internal structure of the wood and no decay.

This research may answer a question which has confronted manufacturers of soaps and cleaning agents ever since scientific cleaning has been given serious thought. The question is—"Why does a wood floor check and splinter when soda soaps or compounds are used for repeated cleaning and yet not show the same ill effects when a potash soap is used?"

The conditions are practically identical differing only in the fact that cleaning solutions contain a very much higher percentage of soda or potash, as the case may be, than the lake waters, which fact should tend to increase the hazard of breakdown.

Soda soaps and compounds appear to clean a hardwood floor very efficiently partly because of a bleaching action resulting from the chemical change in the wood itself as explained before. Thus, continued use causes checking in the surface of the floor and if the floor is subjected to hard usage will eventually splinter and sliver, necessitating frequent planing or sanding. This reaction is more noticeable on oak flooring than on maple because of the greater porosity of oak wood.

This undesirable feature is not met if a potash base soap is used for general cleaning and scrubbing. In fact, potash soap cleans without any chemical action, restores the natural color of the wood by removal of soil alone, and in reality acts as a preservative of the surface on which it is used.

The following is an actual observation of the preservative properties of potash soaps. The floor of a much-used office in a rather new building began to splinter and sliver, mopping each day bringing off new slivers. The manager was inclined to blame the lumber used. He was finally persuaded to change his cleaning agent to potash soap. He had been using a soda soap powder. After a period of time, the floor gradually ceased to splinter and took on a much improved appearance.

There are of course methods of preserving a floor such as oiling or waxing, but these methods also give only temporary protection as eventually the dirt and grime work into the surface and the floor has to be scrubbed to remove the surfacing agent. In some instances scraping is necessary before the original surface of the wood is restored.

The cost of a potash base soap is slightly higher pound for pound than that of soda soaps and is the main reason why the latter have been more extensively used. On analysis of service and results over a period of years, the balance is swinging toward potash soap as the more practical and economical, which is evinced by the increasing use of these soaps in public building and institutions after testing the respective merits of the products.

Sterilizing Dairy Equipment

Chlorine solutions to be used in sterilizing dairy equipment should be quick acting in destroying bacteria, noncorrosive to equipment, stable, quickly and completely soluble, and free rinsing. These properties are discussed in relation to calcium hypochlorites, organic chlorine compounds and sodium hypochlorites. Calcium hypochlorites contain insoluble material and many are corrosive to equipment. Organic chlorine compounds such as chloramine T are slow acting. The solid sodium hypochlorite is soluble, noncorrosive and fast acting. Liquid hypochlorites are relatively unstable and corrosive but are quick acting. When chlorine solutions are used for sterilizing equipment, 50 p.p.m. of chlorine is usually required by health departments. When the sterilizing is effected by spraying of the chlorine solution, the solution should contain 250 p.p.m. of chlorine. W. E. Noyes. *Milk Dealer* **27,** No. 8, 52-60 (1938).

Water on Floor Finishes

A study of the swelling of floor-finishes in water leads to the following conclusions: Oil varnishes containing phenolic resins are much more water resistant than those containing other resins. Tung oil exerts a distinct influence even in small percentages and is able to neutralize the swelling tendency of larger quantities of linseed oil. Long-oil varnishes with a high linseed oil content absorb more water than short-oil varnishes. The drier has a considerable influence. Lead-dried linseed oil varnishes take up more water after three weeks' immersion, than cobalt—or manganese-dried films; tung oil and oiticica oil varnishes show a smaller absorption with lead drier. In tung oil varnishes the application of cobalt or manganese drier must be as small as possible. Dehydrated castor oil varnishes behave like tung oil and oiticica oil varnishes, but are much less water resistant. J. Rinse, W. H. G. Wiebols and H. V. Takes. *Ind. Eng. Chem.* **30,** 1043-6 (1938).

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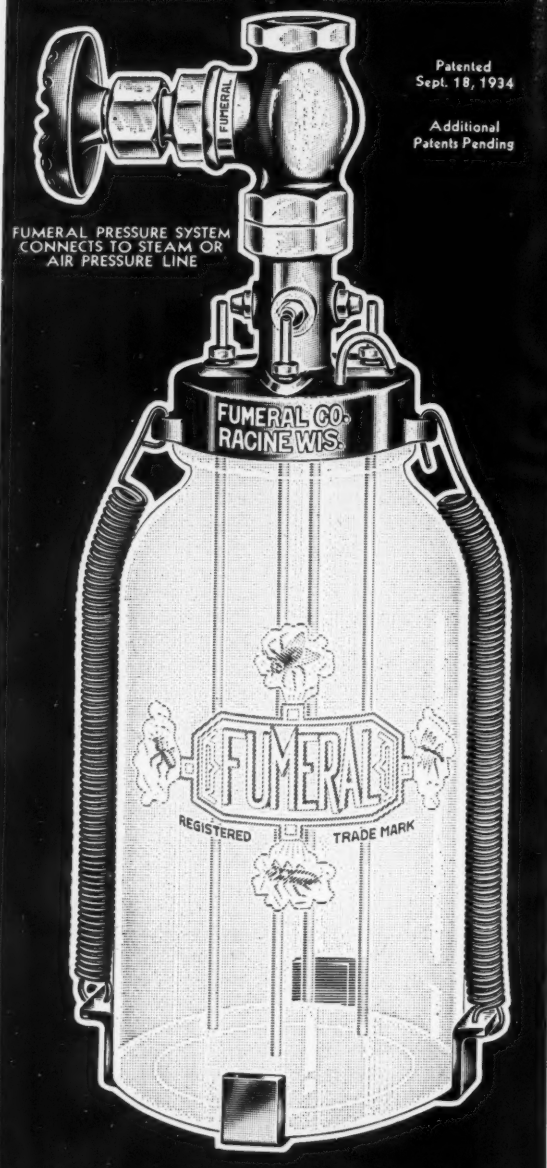

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Bentonite

(*From Page 26*)

acts like a zeolite in that it softens water by taking the soluble lime and magnesium out of solution and replacing them by sodium and potassium. Such water-hardening materials become part of the bentonite and are carried in suspension by it rather than being precipitated as insoluble deposits on fabrics, as occurs with alkalies.

Besides the usual benefit of requiring less soap and alkali, it is advantageous to use such a base-exchange material directly in the laundry wash water. Even if presoftening equipment is used, there is usually a small and varying degree of hardness in the water depending on the time elapsing between regenerative treatments of the zeolite bed. Bentonite overcomes this varying hardness incidentally during its washing action.

Its efficiency for this purpose is shown by the improved cleansing obtained through its use. Frequently washed fabrics no longer show a gradual tendency to become gray or dull, and textiles are in a better condition for dyeing, because of the absence of lime soaps. Also laundrymen who use the proper grade of bentonite correctly and regularly, find that it prevents accumulation of curd in the wash wheels.

Because of its water softening properties, bentonite increases the lathering power of soap in hard water. In totally soft water, an excess of it will decrease the amount of lather formed. In both cases, however, it is most important to note that it promotes the formation of smaller, stronger, and more lasting bubbles. These smaller and stronger bubbles have greater suspending power for dirt, which is especially desirable in the presence of heavy soil.

Bentonite itself does not lower the surface tension of water against air, and consequently does not lather. It should be pointed out, though, that lather itself is not a very important function in washing. In fact it is not even necessary for cleaning as is shown by the extensive use alone of such alkalies as soda ash, metasilicate, caustic soda, etc. They produce practically no foam in water and yet are indispensable for laundry operations, and are used in almost all cleaning compounds. The appearance of lather merely indicates that sufficient detergent is present to cleanse. This fact is recognized not only by soap chemists, but also by soap makers themselves.[14, 15]

The actual detergency of bentonite is becoming generally recognized. It is being used directly in washing and scouring solutions, as well as an ingredient in the manufacture of soaps, cleaners and polishes. In combination with soaps and alkalies, it overcomes some disadvantages that are inherent in each of them, and forms combinations having desirable properties that neither possess alone.

References

[1]Claudius Galen (130-200 A.D.) was the first writer to describe soap as a cleaning agent. However, Pliny, the Roman historian (23-79 A.D.) mentioned "sapo" as an invention of the Gauls and described it as being made from goat's suet and the ashes of the beech tree. He also casually added that it was much used by the Germans "by the men in particular, more than the women."

[2]At one time fuller's earth was considered so indispensable in England for the dressing of cloth, that to prevent foreigners from rivaling English fabrics it was made a contraband commodity, and its exportation a criminal offense. Stanislaus & Meerbot, **American Soap Makers Guide**, p. 3, (1928).

[3]Acheson wrote that colloidal clay, added to soap stock up to 30-40 per cent or even more of the whole, improves the detergent and cleansing qualities of the soap; and that among the notable effects are the formation of stronger and more lasting bubbles increasing their effectiveness for carrying away dirt. U. S. Patent No. 1,419,952 (E. G. Acheson) June 20, 1922.

[4]A. R. C. Kelvin, "Observations in the North West Territory" Progress Report, Canadian Geological Survey, p. 38. (1873-4).

[5]R. G. McConnell, "Report on an Exploration in the Yukon and Mackenzie River Basin, N. W. T." Annual Report. Geological Survey, Can., pp. 95-99D, (1888-9).

[6]Hugh S. Spense, "Bentonite," Canadian Dept. Mines Report No. 626, p. 30, (1924).

[7]L. G. Saywell, "Clarification of Wine" Industrial & Engineering Chemistry, *26*, p. 81 (1934).

[8]Sydney D. Wells, "The De-Inking of Old Newspapers." Report of Forest Products Laboratory, U. S. Dept. of Agriculture. Madison, Wisc., August, 1922.

[9]H. L. Olin and H. W. Peterson, "The Use of Bentonite as a Coagulant in Water Treatment." Jr. Amer. Water Works Assn., *29*, 513 (1937).

[10]H. L. Olin, Chas. L. Campbell, J. V. Gauler, "Experience with Bentonite in the Purification of Sewage." Water Works & Sewerage, July (1937).

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[12]Geoffrey Martin, "The Modern Soap and Detergent Industry" Vol. 1, Sec. 1, p. 43 (1925).

[13]C. S. Ross & E. V. Shannon, "Minerals of Bentonite and Related Clays and Their Physical Properties." Jr. Amer. Cer. Soc., *9*, 86 (1929).

[14]"The value of a soap has always been associated with its lathering power but it appears that the lathering is not a cause of the cleansing effect, although it is a parallel property.

"The lathering power of soap is due to the 'surface activity' against grease. It is possible that a colloidal solution may be a good detergent and will possess little ability to form a lather." Stanislaus & Meerbot. Op. Cit. pp. 61-2.

[15]"True Soap owes its detergent power to certain physical molecular conditions which can be assumed by many other substances as well. Geoffrey Martin. Op. Cit. II. Section 7, pp. 7.

"The recent introduction of colloidal clay as a detergent shows that the detergent properties of soap are in the main determined by its physical properties. It is mainly a colloidal phenomenon.

"Atoms and molecules may be considered as mere aggregates of forces, and if any one system of material particles is made to exert the same forces as another particle—no matter what the chemical nature—they will exhibit the same properties. And so it comes about that two bodies so dissimilar in chemical nature as colloidal clay—a silicate of alumina—exerts the same physical powers as soap—a derivative of the fatty acids." Martin, Geoffrey, Op. Cit. I, Sec. 1., p. 50. Sec. 2, Chapter 2.

Can Grow Pyrethrum in N. H.

The Medicinal Herb Research Project, sponsored by the WPA, has recently prepared a pamphlet which states that pyrethrum can successfully be grown in New Hampshire. According to the pamphlet, pyrethrum has been grown successfully in Pennsylvania, with the crop giving "as good a yield if not better in some instances than the imported plant."

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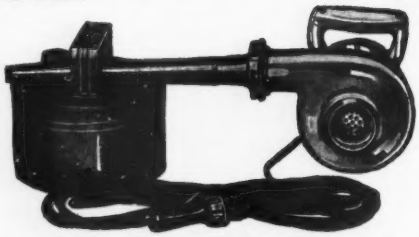
Model 50 Fan Type unit. A fine insecticide atomizer. Sprays distance of 8′ to 10′. ⅛ H.P. G.E. Universal Motor, 1 pint glass jar. 20′ of rubber covered cable.



Model 6 Fan Type unit. Will break insecticide into a very fine mist. Sprays 18′ to 20′. 1/3 H.P. G.E. Universal Motor. Norma Ball Bearings, 1 gallon metal container. This model is for larger institutions, warehouses, industrials, etc., and is also highly recommended for moth-proofing solutions. Write today for complete description and circulars.

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Technical Notes

Discusses Athlete's Foot

How Athlete's Foot was reduced from 91 per cent prevalence among 576 U. S. Navy men to 30 per cent in about two weeks, to less than 5 per cent in about a month and to no infection in two months, was discussed by Dr. Douglas T. Prehn, Medical Corps Lieutenant connected with the U. S. Navy Dispensary in New York, in a recent issue of the *Journal of the A.M.A.* The method used consisted of rubbing into the pores a powder of the following composition:

Salicylic Acid	5 Gm.
Menthol	2 Gm.
Camphor	8 Gm.
Boric Acid	50 Gm.
Starch	35 Gm.

Dispersing Agents

Esters which may be used as cleansing and dispersing agents are prepared by causing to react together compounds chosen from the following two groups: (a) Carboxylic compounds which contain one or more aliphatic or cycloaliphatic substituents of three or more carbon atoms and containing one or more carboxylic groups; (b) sulfonic acids and sulfuric esters which belong to the aliphatic or carbocyclic series and which contain hydroxyl groups or halogen atoms. I. G. Farbenind. A.-G. French Patent No. 820,514.

Uses for Pentachlorophenol

Unlike many substances used as insecticides or fungicides, pentachlorophenol is an effective agent for the control of many varied types of microorganisms. It is highly toxic to fungi, bacteria, yeasts, algae, protozoa and other microorganisms. Pentacholorophenol is simply phenol which has been chlorinated as completely as possible without destruction of the benzene ring. It is soluble in a number of organic solvents. The sodium salt, which is equally as effective as the phenol, is water-soluble. Both compounds are toxic to warm blooded animals. The most important applications so far are for the preservation of wood and wood products, for the prevention of the growth of slime and algae in industrial cooling systems, where it has been found toxic to many types of organisms which are resistant to chlorine, and for the preservation of animal glue which is prone to mildewing and purtrefaction. It is highly probable that many other uses will be developed since both pentachlorophenol and its sodium salt are now being produced on a commercial scale. T. S. Carswell and H. K. Nason. *Ind. Eng. Chem.* **30,** 622-6 (1938).

Special Spot Removers

Sulfonated alcohols can be used for cleaning woolen and silk goods which have been dyed with acid dyes. Oxalic acid and oxalates are good for removing ink and rust spots. Hydrofloric acid removes metal stains. Textiles containing calcium soaps are cleaned with sodium metaphosphate at the maximum temperature feasible. Sodium perborate together with soap removes stains from coffee, wine, milk and cocoa. Trisodium phosphate with soap removes red-ink spots. A patented solution containing one-sixth per cent of sodium phosphate and up to two per cent of active chlorine removes ink and similar spots. The results of recent tests have shown that at the moment of neutralization between a fatty acid and an alkali a greater cleaning effect is produced than if an equivalent amount of neutralized soap were used. Hence wool which has been treated with mineral oils is best cleaned with oleic acid followed by alkali. The wider practical application of this last procedure for the removal of spots with cleaning machines is advised. E. Meissner. *Deut. Wollen-Gewerbe* **70,** 381-2 (1938); through Chem. Abs.

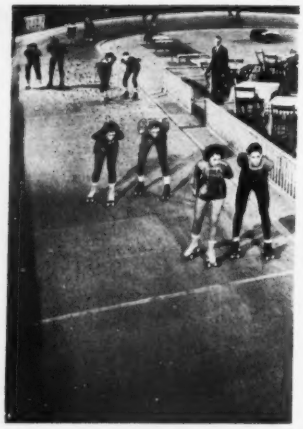
Viscosity of Soap-Cresols

Addition of cresols to 0.1-0.225 *N* sodium stearate solutions gave rise to the formation of maxima in the viscosity curves of the more concentrated soap solutions. Increasing the initial concentration of the stearate produces a rise in the viscosity maximum. Increasing the temperature results in a decided drop in viscosity. The specific volume of the soap is greater in the cresolic solutions than in water alone, indicating that the stearate particles, adsorb more liquid in the presence of the cresol. E. Angelescu and V. Ciortan. *Kolloid-Z.* **82,** 164-72 (1938).

Dry-cleaning Solvent

Trichloroethylene, CHCL: CCL_2, is used to a considerable extent as a solvent and cleaner by the dry-cleaning industry. Because of price, equipment with maximum solvent recovery is essential to its economical use. Perchloroethylene, CCL_2:CCL_2, is somewhat more expensive than trichloroethylene, but can be used to advantage in dry-cleaning equipment with efficient solvent recovery. A drawback with trichloroethylene is that certain dyestuffs, notably the reds and browns used by manufacturers of cellulose acetate rayon, are soluble in hot trichloroethylene, and cleaners immediately began to have trouble from this source. It was found that perchloroethylene does not possess the solvent properties of the lower boiling solvent.

Since 1930 perchloroethylene has enjoyed an increasing use as a dry-cleaning solvent and has to some degree displaced trichloroethylene, although the latter is still quite



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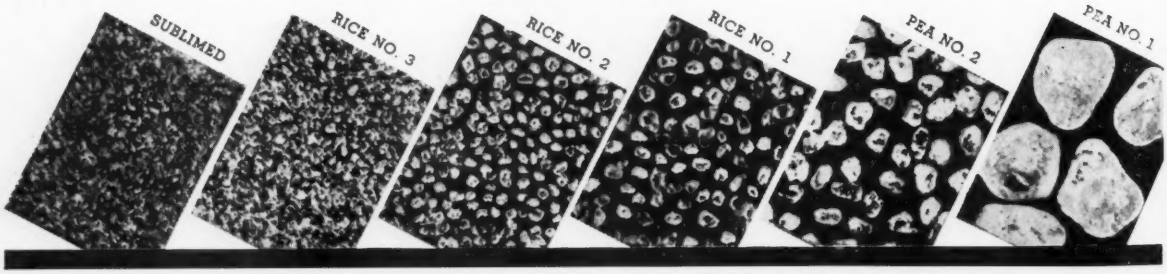

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widely used. Reports from the trade show that, in spite of the higher price of perchloroethylene, reduced solvent losses due to lower vapor pressure make it possible to use it as a solvent cost only some 60 per cent of that of trichloroethylene. The properties of the two solvents are shown in the table:

Properties	*Tri-chloro-ethylene*	*Per-chloro-ethylene*
Molecular weight	131.4	165.8
Boiling point	86.7°C.	120.8°C.
Sp. gr., 20/4°C.	1.462	1.623
Vapor pressure, at 30°C.	94.0	33.0
Inflammability	none	none
Toxicity, (CCl_4 equal 1.0)	1.7	1.6
Corrosion of iron	1.0	3.7

Perchloroethylene is high in cleansing efficiency, minimizing pre-spotting and rewashing,—causes no shrinkage, and leaves garments with a good appearance and feel. J. D. Converse. *Can. Chem. & Process Industries* **22,** 361-4 (1938).

Static in Dry Cleaning

Static electric charges are often generated by friction in the dry-cleaning of fabrics, and sparks produced in this way have been known to lead to serious explosions. Special soaps have long been used in the dry-cleaning industry, partly because they were considered to prevent the generation of static electricity, and partly for their cleaning properties. Experiments made with various typical soaps have shown that from the electrical point of view their active constituent is water, and soaps containing no water have very little effect on the generation of static charges.

The function of the soap is to carry the water into solution, thereby greatly increasing the electrical conductivity of the cleaning liquid. Fabrics have the property of removing the water from solution, so that if many successive charges of fabric are added to the same liquid, its conductivity steadily falls and the tendency to generate static charges increases. In the interests of safety it is therefore desirable to add fresh soap solution periodically. The amount added should be sufficient to raise the electrical conductivity of the liquid to a value of the order of 10^{-11} mho/cm. Other points to be emphasized are that fabrics should not be dried before cleaning, otherwise it will be necessary to use more soap. A high atmospheric humidity tends to prevent the generation of charges. The hot air used for the evaporation of the solvent should therefore preferably be moist. L. Hartshorn and W. H. Ward. *J. Soc. Chem. Ind.* **57,** 178-83 (1938).

Dry-cleaning Solvent

Quick tests for the presence of impurities in supposedly pure dry-cleaning solvent include: (1) Evaporation on a watch glass. A greasy residue indicates dissolved impurities. (2) Treatment with concentrated sulfuric acid. A dark color, or over 5 per cent absorption indicates the presence of unsaturated compounds which may be odor-forming. (3) Addition of potassium permanganate crystals. A purple color shows the presence of moisture. (4) Filtration through ordinary filter paper. After the paper has dried, suspended soil or grease becomes readily noticeable. (5) Addition of phenolphthalein to test for free alkali. (6) Agitation with a concentrated caustic soda solution. Dissolved soap will settle in a layer between the solvent and water layers. (7) Direct titration of free acid or alkali. Noel L. Cooperider. *Am. Dry Cleaner* **5,** No. 1, 37-9; No. 2, 35-7 (1938).

Odor Theory

It is suggested that a relationship exists between Raman effect and the odor of compounds. The theory is advanced that Raman shifts between 1400 and 3500 are a measure of the osmic frequencies concerned in odor sensation. It is of paramount importance to consider how this theory might be considered capable of dealing with the question of the odor of such compounds as aldehydes, ketones, alcohols, acids and their esters, for it is from these compounds that the perfumery industry takes the vast majority of its raw materials. G. Malcolm Dyson. *Chemistry & Industry* **57,** 647-51 (1938).

White Shoe Dressing

The desirable properties of white shoe dressing include the following: (a) It must readily provide a uniform coating on a fairly wide variety of shoe finishes; (b) it must not rub off easily; (c) it should renovate the appearance of the shoes by partially, at least, removing the stains and providing an attractive opaque white film; (d) it must be pleasant and easy to use.

Various pigments form the basis of white shoe dressings. They include lithopone, zinc oxide, whiting, talc, precipitated chalk, bismuth subnitrate, zinc sulfide, titanium pigments, and magnesium salts. Colloidal, light-colored grades of china clay or bentonite are useful in liquid preparations for helping to keep the other pigments in suspension. They also tend to prevent caking of the solid ingredients into a concrete-like mass.

Triethanolamine, alcohol and other water-soluble solvents may be employed, while in the emulsified type of liquid, the usual shoe polish solvents may be used. Carbon tetrachloride is a useful cleaning agent to incorporate; trisodium phosphate, sodium metaphosphate, and soap, are also useful cleansers. The binding agents are usually gums such as tragacanth and karaya, or they may consist of shellac solubilized with borax or ammonia,—glue, glycerine, gelatin, albumen, soap, or alkali and casein. When using certain of these, it is necessary to incorporate preservatives such as salicylic acid, *para*-hydroxybenzoic acid, phenol, formaldehyde, etc. A simple but practical type of dressing may be made as follows:

	Parts
Whiting	7.0
Lithopone	10.0
Titanium pigment	3.0
Bentonite	1.4
Powdered tragacanth	0.4
Trisodium phosphate	1.0
Industrial alcohol	7.0
Perfume	0.1
Methyl *para*hydroxybenzoate	0.1
Water	70.0

The emulsion type may be based on triethanolamine oleate and may contain carbon tetrachloride and naphtha. Many variations are possible. George S. Collingridge. *Chem. Age* **39,** 4-5 (1938).

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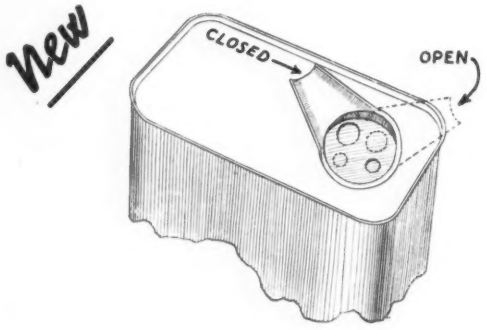
STANDARD SPRAYERS are not stock sprayers . . . they are "tailor-made" sprayers designed individually to *your* specifications . . . look into STANDARD SPRAYERS now for 1939.



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News.....

Report Fly-Spray Death

According to an Associated Press report which was published widely in newspapers throughout the country, a Mrs. Alexander B. Sanford of Worcester, Mass., dies "as a result of accidentally inhaling an insecticide spray." This was according to the statment of the medical examiner of Worcester, Dr. John C. Ward. The woman was reported as accustomed to spraying her apartment with the insecticide liquid, and this "combined with her age, had produced a toxic condition which proved fatal," stated the news report. The woman was a hospital patient for a week preceding her death. Dr. Ward was quoted as stating that the spray was of the common household variety. Both police and medical authorities said it was the first time that they had ever heard of an insecticide spray causing death.

Corl with Allaire, Woodward

Cady S. Corl has become associated with the technical staff of Allaire, Woodward & Co., Peoria, Ill., drug and pyrethrum millers and manufacturers of insecticide products. Mr. Corl is well-known for his work in the chemistry of pyrethrum. He was formerly in charge of the insecticide products manufacturing division for S. B. Penick & Co., New York.

To Study Spraying

A study of sprayers and spraying technique will be undertaken through a fellowship recently established at Ohio State University by Standard Containers, Inc., Bloomfield, N. J. The firm which manufactures hand sprayers and metal containers states that the fellowship investigations will be carried on at Ohio State under the supervision of Dr. F. L. Campbell by Robert Hursh, a graduate of the University of Illinois. It is believed that as a result of the studies, technical improvements in sprayer construction will result which will permit accommodating sprayers directly to the viscosities of household insecticides, cattle sprays, and other spray products. Microphotographs will be used extensively permitting a closer study of spray-mists, droplet size, duration of suspension, etc.

Entomologists to Meet

Eastern Branch of the American Association of Economic Entomologists will meet on November 17 and 18 at Baltimore. Among the features thus far scheduled on the program is a half-day symposium on problems in the control of household insects. Pest control operators and insecticide manufacturers in the eastern area are invited to attend by Neely Turner, chairman, Connecticut Agricultural Experiment Station, New Haven, Conn. All the speakers at the symposium will deal with matters primarily affecting the work of the professional exterminator in household insect control.

In Joint Promotion Drive

Wilbert Products Co., New York, manufacturers of "Wilbert's Wax" floor polish, Hygienic Products Co., Canton, O., manufacturers of "Sani-Flush" toilet bowl cleaner, and Brillo Mfg. Co., Brooklyn, manufacturers of "Brillo" scouring pads, have joined forces in a combined merchandising and display drive in the grocery field during the fall and winter months.

New York Exterminators Meet

C. H. W. Hasselriis, Ratin Laboratories, Inc., New York, was a speaker at the regular monthly meeting of the Associated Exterminators and Fumigators of New York, held at association headquarters, 7 East 44th St., last month. Mr. Hasselriis, who is credited with being among the first professional pest control operators to introduce red squill as rat bait in the United States, spoke on rat control and proper baiting methods. Following his talk, two new firms were proposed for membership in the association and accepted. The new members are Presto Exterminating Co. and Columbia Exterminating Co. William O. Buettner, president of the association, presided at the meeting. The association will meet again on Oct. 18, at the same address.

New Sennewald Plant

Sennewald Drug Co., St. Louis, manufacturers of phosphorus paste, poison grains, and insecticides, have purchased the building at 2721-23 Chouteau Ave., St. Louis, where office, laboratories and factory will hereafter be located. The new plant is a one-story brick and concrete building embracing something over 4,000 square feet of floor space. The Sennewald firm which was established in 1855 has been located at 300 Hickory St., St. Louis, for many years.

Joins Associated Chemists

Associated Chemists, Inc., Chicago, suppliers of raw materials and specialties for the insecticide industry, has appointed Athan A. Pantsios as head of its manufacturing and research department.

Passaic Janitor Supply House

David Wickner has just started in business at 232 Brook Ave., Passaic, N. J., as the Garden State Supply Co. The new concern will sell janitorial and maintenance supplies including a full line of sanitary chemicals. Mr. Wickner was formerly connected with Rialto Theatre Supply Co., Passaic.

Arwell Appoints Agency

Arwell Inc., Waukegan, Ill., manufacturers of insecticides, has appointed Paul Grant Advertising Co., Chicago, to handle its advertising account.

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Markets New Specialty Line

Standard Oil Co. of Ohio, Cleveland, has recently placed on the market a series of new products which include floor wax, furniture polish, moth spray, upholstery cleaner and a glass cleaner.

F.T.C. Checks Polish Claims

L. W. Middleton, Waterloo, Iowa, has just entered into a stipulation with the U. S. Federal Trade Commission agreeing to discontinue the use of misleading claims in the sale of "Weather Wax." Under the stipulation Middleton will no longer claim that his product will restore the original finish to any surface on which it is used, nor will he make any false representation regarding the melting point of his product.

Cook Joins Maintenance Prod.

J. E. Werner, head of Maintenance Products Co., 529 South High St., Columbus, Ohio, has announced the appointment of John B. Cook as sales manager of Maintenance Products Co. The company offers a complete line of maintenance materials for plant superintendents and plant engineers.

FTC Checks Perfect Mfg.

Perfect Mfg. Co., Cincinnati, has been ordered by the U. S. Federal Trade Commission to discontinue misrepresentations in connection with the sale of "Kar-Nu," liquid auto finish. The order prohibits representations to the effect that "Kar-Nu" will produce a finish like new on autos. The order also directs discontinuance of the statement that the product has been tested by the Automotive Test Laboratory of America.

New Anti-termite Ventilator

Mathews Nelson, president of the Whoopee Manufacturing Co., Tulsa, Oklahoma, has announced the issuance to him of a patent for a new type anti-termite ventilator, constructed of aluminum, glass, and copper screening, for protection of homes and other buildings with wooden construction against termites. The ventilator is built into the wall or foundation, permits the controlled access of air, and excludes termites and other insects, snakes, animals, etc. The new device has met with a very considerable success in the Southwest and South where termite damage has been heavy. They are being distributed through jobbers, lumber yards and builders, and the hardware trade. Patent number for the device is U. S. No. 2,130,811, granted Sept., 1938. The device is suitable for use in new or old buildings. The Whoopee Manufacturing Co. is located at 740 West 21st St. in Tulsa.

Pacific Exterminator Moves

Ernest Mills, president of the Pacific Exterminator Co., San Francisco, has announced the removal of his firm to new and much larger quarters at 205 Oak St., San Francisco. Mr. Mills is vice-president of the California Pest Control Association.

No Change in Pfaltz & Bauer

Pfaltz & Bauer, Inc., New York chemical importers, have issued an announcement that there has been no change in their corporate name, and that their address remains at the Empire State Building as in the past. The reason for this announcement was the recently published change in name of the Pfaltz & Bauer Chemical Co. of California to the McNerney Chemical Co., San Francisco.

Offer Venetian Blind Cleaner

The Breuer Electric Manufacturing Co., Chicago, has recently developed a new attachment for the vacuum cleaning of venetian blinds. The device is especially adapted for use with the "Breuer" vacuum cleaner and has the advantage of cleaning both sides of the venetian blind at once. It also cleans the tapes as well as those parts of the slats between the tapes which are ordinarily difficult to reach with other cleaning tools. Brush strips, used in the attachment, are easily removable for cleaning.

Whitmoyer Laboratories Move

Whitmoyer Laboratories, Myerstown, Pa., manufacturers of chemical specialties, have recently moved into larger quarters near Myerstown. In the new location they will have an additional 18,000 square feet of floor space which will enable them to increase manufacturing facilities to five times their present capacity.

Cleaning Floors

Compositions for cleaning parquet floors consist of an organic solvent such as heavy benzine or carbon tetrachloride emulsified in aqueous ammonia or a hydrogen peroxide solution containing ammonia, together with alcoholic soap solution. Josef Grein. German Patent No. 660,088.

New Seidman Daughter

J. N. Seidman, president of the Dependable Exterminating & Fumigating Co., Detroit, announces a new arrival in the Seidman family, a girl weighing seven and a half pounds, born on September 13.

Carnauba Wax Shipments Up

Shipments of carnauba wax from Brazil totalled 4,762 metric tons during the first five months of 1938, a slightly larger total than was shipped in the same period of 1937 or 1936. Stocks in Brazil were reported to be relatively low at mid-year but it was estimated that the new crop will be about 10,000 tons of wax. Exports of carnauba wax from Brazil have increased steadily during recent years.

Wants American Polishes

A concern in Prague, Czechoslovakia has applied to the U. S. Department of Commerce for a source of supply of American polishes and cleansers. Concerns interested in entering into an agency arrangement may secure further details by addressing the U. S. Department of Foreign and Domestic Commerce at Washington, D. C., mentioning the file number 7701.

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National Pest Control Assn. Meets at Omaha Oct. 24-26

THE NATIONAL PEST CONTROL ASSOCIATION will hold its sixth annual convention at Omaha on Oct. 24-26. A full program of addresses by prominent guest speakers, including the Hon. Dan B. Butler, mayor of Omaha, a parade, in which the different states will be represented by convention delegates in appropriate costume, an exhibit by manufacturers and suppliers of products for the pest control industry, clinics on questions raised by the various speakers at the convention, a demonstration of its emergency service by the Omaha Fire Department, and a banquet and dance, will feature the three-day session. The Hotel Fontenelle in Omaha will be the scene of most of the activities.

The convention will be called to order on Monday morning, Oct. 24, at 9:30 by Walter S. McCloud, of W. B. McCloud & Co., Chicago, general chairman of the convention committee and a vice-president of the national association. Hon. Dan B. Butler, mayor of Omaha, will extend a formal welcome on the part of the city to all delegates. H. K. Steckel, president of the national association, will deliver the president's annual message. The main address of the first morning session will be delivered by Rodman M. Brown, chief engineer of the Building Dept. of the City of Omaha, on the subject of "The Relationship Between a Building Official and the Pest Control Operator." Following Mr. Brown, chairmen of the various committees will submit their reports. Their findings will be incorporated in the discussions of the clinic groups to be held each day, for further analysis and elaboration.

A further contribution to the subject of public relations in the pest control industry, which is the general theme of the morning sessions of the first day, will be a talk by B. W. Packer, directory manager, Northwestern Bell Telephone Co., Omaha, on "The Relation Between Pest Control Operators and the Telephone Co." The afternoon addresses and discussions will be devoted to fumigation methods and procedure. Dr. Richard T. Cotton, senior entomologist of the Bureau of Entomology and Plant Quarantine at Manhattan, Kans., will talk on "Fumigation Methods." Dr. C. L. Williams, assistant surgeon general, Foreign Quarantine Division, U. S. Public Health Service at Washington, will discuss "The Dangers from Hydrocyanic Acid Gas Absorbed in Bedding." A question and answer period will follow the talks, during which manufacturers of fumigating equipment and materials will be given an opportunity to explain their products. A third address on fumigation will be delivered by Dr. F. L. Campbell, Ohio State University, Columbus, O., on "House Fumigation with Methyl Bromide." The first day's formal program will be concluded with a display of pest control products, and an exhibition by the Omaha Fire Department.

The second day's convention sessions will be devoted to talks and discussions on pests and pest control poblems. Ira N. Gabrielson, chief of the Bureau of Biological Survey, U. S. Dept. of Agriculture at Washington, G. C. Oderkirk, assistant biologist of the Bureau of Biological Survey, and F. E. Garlough, director of the research laboratories of the Bureau of Biological Survey will report on "Biological Studies and Their Relation to Rat and Mice Control Problems." Problems in ant control will be discussed by W. E. McCauley, Illinois Natural History Survey; Ernest R. Barber, Barber Laboratories, New Orleans; Wilbur F. Smith, Alderman Co., Pasadena, Calif.; and Dr. F. A. Fenton, of the Oklahoma Agricultural College. Dr. H. E. Whitmire, Whitmire Research Corp., St. Louis, will deliver an address on "Trends in Pest Control with Special Reference to Rotenone Derivatives." Clinic sessions on bedbug problems, moth and carpet beetles, and roach control will be held, during which Dr. Roger C. Smith, of the Kansas State College, will deliver an address on "Biology and Control Studies on Roaches During the Past Year." George M. Hunt, U. S. Forest Laboratories, and Dr. Thomas Snyder, U. S. Dept. of Agriculture, will discuss termite control.

On the third and final day of the convention, new officers and directors for 1938-39 will be elected, and in the afternoon a parade of all delegates, starting in the lobby of the Hotel Fontenelle and ending at the Joslyn Memorial, will take place. Special entertainment has been planned for the ladies during the convention, including a style show, a visit to the horse show, "Bingo," and a sightseeing tour to points of interest in Omaha. The convention will be terminated by a banquet and dance in the ballroom of the Hotel Fontenelle on the evening of the third day.

Information regarding display space at the convention, transportation rates and hotel reservation may be obtained by writing William O. Buettner, secretary, 3019 Ft. Hamilton Parkway, Brooklyn.

◆

Mothproofing Composition

A mothproofing composition contains a phenolic salt of a disubstituted guanidine in a volatile solvent. American Cyanamid & Chemical Co. Canadian Patent No. 375,599.

◆

Chicago Offices Consolidated

The Chicago office of Anchor & Closure Corp. has been consolidated with the Chicago office of Anchor Hocking Glass Corp., at 360 North Michigan Ave.

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Croton-on-Hudson **New York**

Olive Oil

Olive Oil Foots

Deliveries spot and future in barrels, tank cars, drums or tank wagons.

ESSENTIAL OILS

Lemon—Bergamot—Orange

LEGHORN TRADING CO.
INC.
155 East 44th St., New York
Phone: VAnderbilt 3—6361-2-3
ITALY—SPAIN—GREECE—TURKEY—AFRICA

We announce development of new type soap colors

PYLAKLORS

They have good fastness to alkali, light, tin, ageing.

The following shades are already available:

Bright Green	Dark Brown
Olive Green	Palm Green
Yellow	Golden Brown
True Blue	Violet

It will pay you to send for testing samples.

PYLAM PRODUCTS CO., INC.
Manufacturing Chemists, Importers, Exporters
799 Greenwich St. **New York City**
Cable Address: "Pylamco"

Check Rideal Walker Test

The latest report of the British Chemistry Research Board in connection with the revision of the Rideal Walker test method for disinfectants indicated that some studies have been made to determine the degree of consistency which it is possible to achieve with this test. The conclusion of the Board as the result of work so far completed is that constancy of results is extremely difficult to guarantee even when adhering strictly to the standard testing methods.

The latest report of the Board indicates that there may be some validity in the recent French claim that oxygen under pressure presents marked bactericidal properties. Under experimental conditions, four test organisms were retarded in their growth when exposed to an oxygen pressure of ten atmospheres. This retardation, which was very slight at or immediately above the minimum temperature for growth, became increasingly noticeable as the temperature rose toward the optimum. On increasing the temperature beyond the optimum, the effect of oxygen under ten atmospheres pressure was found to be lethal.

pH and Germicidal Effect

A decrease in pH generally corresponds to an increase in germicidal effect, according to a paper presented by Paul Goedrich at the recent meeting of the American Pharmaceutical Association. The action of germicides in the lower ranges of pH was studied and it was found that only a minor part of the increase in germicidal effect can be attributed to the acid alone. The combined action of acids or acid salts with the germicides is believed to be responsible for the considerable increase in germicidal effect.

Drug Trade Meets at Skytop

Plans for the third annual fall meeting and golf tournament of the Drug, Chemical, and Allied Trades Section of the New York Board of Trade are being completed rapidly under the direction of William D. Barry, Mallinckrodt Chemical Works, chairman of the general committee. This year the group will return again to Skytop Club, Skytop, Pa., Oct. 21 and 22. Meeting sessions are planned for the afternoon of each day under the direction of Hugh Craig of the *Oil, Paint, and Drug Reporter*, chairman of the program committee. Charles Kelly of Hagerty Bros. & Co., is acting as chairman of the golf committee in charge of the annual tournament which will be played the morning of October 22. If a sufficient number of ladies attend, a special ladies tournament will also be arranged. Reservations for this fall gathering of the drug and chemical industry should be addressed to Mr. Barry at 41 Park Row, New York City.

PYRETHRUM PICTURES

Photographs of pyrethrum scenes in Japan which appeared in the September issue of SOAP in an article on "Pyrethrum" by Herbert Leopold are identical with those which appear on pages 14 and 20 of "Pyrethrum Flowers" by C. B. Gnadinger. The pictures which came to us direct from Japan were published in SOAP without recognizing that they were the same views. It is our wish to acknowledge credit for these photographs to "Pyrethrum Flowers" and Mr. Gnadinger, its author.—The Editors.

Merkel With Geo. Lueders

Kenneth W. Merkel, perfumer for George Fischbeck and Co., New York, until the recent consolidation of that firm with P. R. Dreyer Inc., has just joined George Lueders and Co., New York, in charge of their perfume laboratory. Mr. Merkel has had an extensive experience in the perfuming materials field, having operated his own company prior to joining the Fischbeck organization. Prior to that, he worked for Ungerer & Co. In his new connection, he will combine some sales work with his duties as director of the Lueders perfume laboratory.

Kummerow with Owens-Illinois

George E. Kummerow, with Continental Can Co. for the past nineteen years, has recently joined Owens-Illinois Can Co. as Chicago branch manager. He has served as Chicago sales manager in the general line can field for Continental Can Co. over the past five years.

Announces New Insect Trap

Miller Co., Meriden, Conn., has developed an insect trap called the "Light Trap." The trap is said to destroy night flying insects without smell or smoke. The insects are caught through funneled openings in a glass dome and exterminated by super-heated air created by a 150 watt bulb on the inside.

Forms Washing Fluid Co.

John Riccardi, President of Roman Cleanser Co., Grand Rapids, Michigan, has recently registered the new firm name of Aroma Washing Fluid Co. The concern is located at 1632 Kalamazoo Ave. Southeast, Grand Rapids.

Consolidated Chemical Laboratories, St. Louis, have named the Ridgway Co., St. Louis, to handle the advertising of their "Con-Sol" floor finishes.

It Manufacturing Co., Detroit, manufacturers of "It" cleaner, has appointed Gerth-Knollin Advertising Agency, of Los Angeles, to direct its national advertising.

Trade Marks Granted

(*From Page* 51)

359,665. Germicide and Antiseptic. McKesson & Robbins, Inc., Bridgeport, Conn. Filed April 10, 1937. Serial No. 391,188. Published May 25, 1937. Class 6.

359,676. Agent for preventing the formation of foam in the manufacture of soap. Resinous Products & Chemical Co., Philadelphia. Filed Sept. 11, 1937. Serial No.

The Perfect Twins

MORTOLIN
the
Ideal Mothproofing Compound
Oil Soluble Non-Poisonous

MORTICIDE
the
Tested Bed Bug Concentrate
Odorless Efficient

Send for Samples and Complete Information

PYRETHRUM PRODUCTS DERRIS PRODUCTS

ASSOCIATED CHEMISTS, INC.
6243 So. Ashland Ave. Chicago, Ill.

CARNAUBA WAX

—CHOICE SELECTIONS—

The maintenance of our own organization in Brazil places us in a unique position as importers of this product.

ALL GRADES
SPOT OR FUTURES

•

LENAPE TRADING CO., INC.
225 BROADWAY NEW YORK

Sales Representatives

BOSTON, MASS.
N. S. Wilson & Sons Co.
729 North Station
Industrial Bldg.

ST. LOUIS, MO.
Clifford L. Ions Co.
619 Clark Ave.

SYRACUSE, N. Y.
L. R. Cross
418 Solar St.

A new floor wax
for the janitor supply
and jobbing trades which is

waterproof

and which gives a

high gloss

≫

ZIP-ON WAX

Dries very bright and becomes water resistant as soon as dry. Wax content guaranteed 100% Carnauba. Supplied in bulk, or with your label in any size container.

Shawmut Specialty Co.
91 Bickford St. Boston

SOAP DIES and STAMPS

—for—
TOILET SOAPS
LAUNDRY SOAPS
BATH TABLETS
STAMPING

For Foot and Power Presses

Manufacture Backed by 35 Years' Experience

ANTHONY J. FRIES
717 Sycamore Street Cincinnati, O., U. S. A.

397,346. Published June 7, 1938. Class 6.

359,680. Household Cleanser. John T. Stanley Co., New York. Filed Oct. 8, 1937. Serial No. 398,296. Published June 21, 1938. Class 4.

359,701. Insect Repellent Materials. Regnew Laboratories, Madison, Wis. Filed Dec. 10, 1937. Serial No. 400,714. Published May 31, 1938. Class 6.

359,713. Insecticide. Termax Co., Minneapolis. Filed Jan. 14, 1938. Serial No. 401,961. Published June 7, 1938. Class 6.

359,721. Preparation for Cleaning Toilet Bowls. Chemical Process Co., Dallas, Tex. Filed Jan. 27, 1938. Serial No. 402,404. Published June 21, 1938. Class 4.

359,723. Medicated Shampoo. Mirus Laboratories, New York. Filed Feb. 2, 1938. Serial No. 402,603. Published June 21, 1938. Class 6.

359,726. Paradichlorobenzene. Zoro Co., Chicago. Filed Feb. 5, 1938. Serial No. 402,734. Published May 31, 1938. Class 6.

359,738. Insecticides. Stanco Inc., Wilmington. Filed Feb. 21, 1938. Serial No. 403,283. Published May 31, 1938. Class 6.

359,764. Shampoo. John H. Breck, Springfield, Mass. Filed March 16, 1938. Serial No. 404,117. Published June 21, 1938. Class 6.

359,773. Shampoos. Faberge, Inc., New York. Filed March 22, 1938. Serial No. 404,357. Published June 14, 1938. Class 6.

359,776. Dentifrices. No-D-Ka Co., West Springfield, Mass. Filed March 23, 1938. Serial No. 404,418. Published June 21, 1938. Class 6.

359,778. Roach and Lice Powder. Vernon J. Billimack, St. Louis. Filed March 25, 1938. Serial No. 404,464. Published May 31, 1938. Class 6.

359,787. Insecticides. Michael P. Barr, New York. Filed March 31, 1938. Serial No. 404,681. Published June 14, 1938. Class 6.

359,799. Chemical Compound for Disinfecting, and Deodorizing. Do-All Co., Elmira, N. Y. Filed April 7, 1938. Serial No. 404,998. Published June 21, 1938. Class 6.

359,847. Preparation for Polishing and Sealing Floors. Histosan Inc., Ivoryton, Conn. Filed April 22, 1938. Serial No. 405,601. Published June 21, 1938. Class 16.

359,852. Liquid Preparation for Mothproofing. Boston Drug & Chemical Co., Boston. Filed April 26, 1938. Serial No. 405,713. Published June 21, 1938. Class 6.

359,869. Chemical Preparation for Exterminating Moths. August Trautman, New York. Filed May 2, 1938. Serial No. 405,944. Published June 21, 1938. Class 6.

359,952. Soap. Hewitt Soap Co., Dayton, O. Filed Aug. 30, 1937. Serial No. 396,918. Published June 28, 1938. Class 4.

359,955. Antiseptic. C. E. Jamieson & Co., Detroit. Filed Sept. 11, 1937. Serial No. 397,335. Published May 3, 1938. Class 6.

359,988. Washing Powders. Mar-Vin Dispenser and Products Co., New York. Filed Jan. 4, 1938. Serial No. 401,533. Published June 28, 1938. Class 4.

360,135. Preparation for Cleaning Floors. J. A. Tumbler Laboratories, Baltimore. Filed April 19, 1938. Serial No. 405,468. Published June 28, 1938. Class 4.

360,159. Jewelry Cleaner. Milton Weingarten Co., San Francisco. Filed May 2, 1938. Serial No. 405,948. Published June 28, 1938. Class 4.

360,168. Cleaning Compounds. Turco Products, Los Angeles. Filed May 14, 1938. Serial No. 406,357. Published June 28, 1938. Class 4.

360,169. Glass Cleaning Preparations. Turco Products, Los Angeles. Filed May 14, 1938. Serial No. 406,358. Published June 28, 1938. Class 4.

360,208. Polish for Furniture. Wonder Products Co., Salt Lake City, Utah. Filed May 13, 1937. Serial No. 392,675. Published July 5, 1938. Class 16.

360,251. Dog Soap. Black Flag Co., Baltimore. Filed Feb. 7, 1938. Serial No. 402,762. Published July 5, 1938. Class 4.

360,252. Dog Soap. Black Flag Co., Baltimore. Filed Feb. 7, 1938. Serial No. 402,763. Published July 5, 1938. Class 4.

360,272. Preparations for Cleaning Glass. Meyer-Blanke Co., St. Louis. Filed March 12, 1938. Serial No. 404,005. Published July 5, 1938. Class 4.

360,300. Cleaning Compound. Perma Sheen Laboratories, Chicago. Filed April 11, 1938. Serial No. 405,106. Published July 5, 1938. Class 4.

360,435. Antiseptic. Pynosol Laboratories, Chicago. Filed March 29, 1937. Serial No. 390,668. Published July 5, 1938. Class 6.

360,460. Detergent. Harold Gray Jarvis, Portland, Oreg. Filed Oct. 18, 1937. Serial No. 398,622. Published July 5, 1938. Class 6.

360,490. Tooth Powder. Detroit District Dental Society, Detroit. Filed Jan. 25, 1938. Serial No. 402,294. Published July 12, 1938. Class 6.

360,522. Deodorant Tablets. H. Kirk White and Co., Oconomowoc, Wis. Filed March 9, 1938. Serial No. 403,884. Published June 28, 1938. Class 6.

360,545. Dental Cream. Proctors Products Co., New Haven, Conn. Filed April 4, 1938. Serial No. 404,867. Published June 28, 1938. Class 6.

360,549. Germicide. Wm. S. Merrell Co., Cincinnati. Filed April 6, 1938. Serial No. 404,948. Published June 28, 1938. Class 6.

360,572. Germicide. F. Freithofer Manufacturing Co., Pittsburgh. Filed April 14, 1938. Serial No. 405,246. Published July 5, 1938. Class 6.

360,610. Insecticides. Stauffer Chemical Co., New York. Filed April 30, 1938. Serial No. 405,901. Published July 12, 1938. Class 6.

360,644. Soap. F. W. Woolworth Co., New York. Filed May 13, 1938. Serial No. 406,319. Published July 12, 1938. Class 4.

360,671. Shampoo. Lulu Products, New York. Filed May 26, 1938. Serial No. 406,775. Published July 5, 1938. Class 6.

LIQUIDATING

MACHINERY AND EQUIPMENT

J. T. ROBERTSON CO. SYRACUSE, N. Y.

ATTENTION SOAP & SANITARY PRODUCTS MANUFACTURERS!

This is one of the finest soap plants we have ever liquidated. The machinery and equipment is all of recent design and in excellent condition. Don't miss this opportunity to fill your soap machinery requirements at a small fraction of the usual cost.

Outstanding Bargains from Robertson Plant

Wurster & Sanger Complete Double Effect Glycerin Evaporator

J. M. Lehmann 5 Roll Water Cooled 16″ x 40″ Steel Polishing Mill

Proctor & Schwartz Soap Chip Dryer 48″ Single Roll

Proctor & Schwartz Soap Chip Dryer 36″ Single Roll

Proctor & Schwartz Soap Chip Dryer 5 Cooling and Crushing Rolls

3 Jones Automatic Soap Presses

Ferguson & Haas Automatic Wrapping Machine

3 Blanchard No. 14 Soap Powder Mills

2 Shriver Filter Presses 30″ x 30″ 42 Plates

Pneumatic Scale Corp. Automatic Can Filler

2 Pneumatic Scale Corp. Automatic Filling and Weighing Machines with Top and Bottom Sealers for Filling Soap Chips and Powders into Packages

3 H-A Automatic Cutting Tables

2 H-A Automatic Slabbers

2 H-A Jumbo 10″ Plodders

2 H-A Preliminary 8″ Plodders

2 H-A Amalgamators

8 H-A Crutchers

6 H-A 4 Roll Granite Toilet Soap Mills

2 Dopp Crutchers

200 Soap Frames

3 Bliss Sealers

Also Kettles, Tanks, Machine Shop Equipment, Barrel Fillers, Pumps, Motors, Etc.

We invite your inspection and inquiries. All machinery and equipment is priced for immediate sale.

NEWMAN TALLOW & SOAP MACHINERY CO.

1051 W. 35th ST., CHICAGO, ILLINOIS

OUR FORTY YEARS SOAP EXPERIENCE CAN HELP SOLVE YOUR PROBLEMS

Classified Advertising

Classified Advertising—All classified advertisements will be charged for at the rate of ten cents per word, $2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, $1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap*, 254 West 31st St., New York.

Positions Wanted

Soap Chemist, ten years managing experience in laundry and toilet soap production. Perfumer and cosmetist with own formulae desires connection. Address Box No. 469, care *Soap*.

Sales Executive: With a number of years' experience in the insecticide and allied industry with wide acquaintance with jobbing, chain store and syndicate trade nationally, now employed by large eastern manufacturer, desirous of making a change. Have capable sales organization at my command. Am desirous of making connection with progressive organization. Can locate in any part of the country. This party is in the late thirties and married. Write Box No. 470, care of *Soap*.

Analytical Chemist and Soapmaker, specialized in laundry, textile, potash and dry cleaning soaps, detergents and polishes, with long years of experience, wishes new connection. Address Box No. 473, care *Soap*.

Oil Refining: Man with many years experience in practical soap and oil plant work desires new connection. Thoroughly familiar Austrian process affording marked savings in refining vegetable oils. Also expert in soaps, fatty acids, etc. Address Box No. 475, care *Soap*.

Trouble With Soap? Expert will help you. Any kind of soap or soap equipment, especially shampoos, shaving, liquid, granulated, textile, paste and oil soaps. Also analyses. Formulate new ideas. Address Box No. 463, care *Soap*.

Chemist—Young man, 10 years' experience in soaps, soap specialties, waxes, polishes, etc. Raw material, control, production and research. Knows soap line thoroughly. Address Box No. 477, care *Soap*.

Chemical Engineer, Ph.D., long years of experience in specialties for textile, metal and paper industry and raffination of TALLOIL (including latest development in this field), desires connection. Address Box No. 479 care *Soap*.

Soapmaker — perfumer, chemist — long experienced in profitable laundry and toilet soap manufacture. Salary reasonable. Address Box No. 478, care *Soap*.

FORESIGHT-Not Hindsight

The time to buy is *before* not after prices follow the upward trend in industry. Buy Consolidated's Guaranteed Good Rebuilt Soap Machinery *now*.

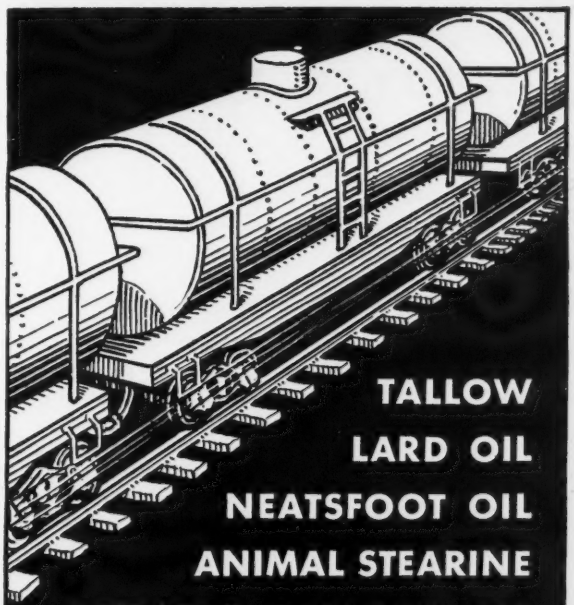
Selected Specials

3—Automatic Soap Wrapping Machines, electric glue sealers, adjustable.
2—Pneumatic Scale Carton Packaging Units.
1—Proctor & Schwartz Soap Chip Dryer, steel frame, 72″ Apron, with 5-roll P. & S. Mill.
4—Steel Wool Mfg. Machines, complete.
1—Blanchard No. 10 Soap Powder Mill.
8—Rotex Sifters, 20″x48″ screens, single deck.
1—Jones automatic Soap Press.

Crutchers	Foot and Automatic Soap Presses	Filter Presses
Soap Kettles		Soap Frames
Powder Mixers	Cutting Tables	Powder Fillers
Granite Mills	Pulverizers	Labellers
Plodders	Soap Pumps	Tanks
Slabbers	Soap Chippers	Boilers

Send for Illustrated Soap Bulletin

CONSOLIDATED PRODUCTS CO., INC.
15-21 PARK ROW NEW YORK, N. Y.
BArclay 7-0600 Cable Address: Equipment
We buy your idle Machinery—Send us a list.



TALLOW
LARD OIL
NEATSFOOT OIL
ANIMAL STEARINE
ACIDLESS TALLOW OIL

Prompt Delivery—Drums, Barrels, or Tank Cars.

INDEPENDENT MANUFACTURING CO.
Bridesburg P. O. Philadelphia, Pa.

Raw Materials and Equipment

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 126 for page numbers. *"Say you saw it in SOAP."*

ALKALIES

John A. Chew, Inc.
Columbia Alkali Co.
T. G. Cooper & Co.
Dow Chemical Co.
Eastern Industries
Hooker Electrochemical Co.
Innis, Speiden & Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

AROMATIC CHEMICALS

American-British Chemical Supplies
Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
Dow Chemical Co.
P. R. Dreyer Inc.
E. I. du Pont de Nemours & Co.
Felton Chemical Co.
Firmenich & Co.
Fritzsche Brothers, Inc.
General Drug Co.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Monsanto Chemical Co.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Schimmel & Co.
Solvay Sales Corp.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

BULK AND PRIVATE BRAND PRODUCTS

Associated Chemists, Inc.
Baird & McGuire, Inc.
Buckingham Wax Corp.
Candy & Co.
Chemical Supply Co.
Clifton Chemical Co.
Davies-Young Soap Co.
Federal Varnish Co.
Fuld Bros.
Harley Soap Co.
Koppers Co.
Kranich Soap Co.
Philadelphia Quartz Co.
John Powell & Co.
Geo. A. Schmidt & Co.
Shawmut Specialty Co.
Sweeping Compound Mnfrs. of N. Y.
Uncle Sam Chemical Co.
T. F. Washburn Co.
White Tar Co.
Windsor Wax Co.

CHEMICALS

American-British Chemical Supplies
John A. Chew, Inc.
Columbia Alkali Co.
T. G. Cooper & Co.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Eastern Industries
Hooker Electrochemical Co.
Industrial Chemical Sales Div.
Innis, Speiden & Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Philadelphia Quartz Co.
Rohm & Haas Co.
E. M. Sergeant Pulp & Chem. Co.
Solvay Sales Corp.
Standard Silicate Co.
Jos. Turner & Co.
Victor Chemical Works
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid Oil, etc.)

American-British Chemical Supplies
Baird & McGuire, Inc.
T. G. Cooper & Co.
Innis, Speiden & Co.
Koppers Co.
Monsanto Chemical Co.
Reilly Tar & Chemical Co.
White Tar Co.

COLORS

Fezandie & Sperrle
Pylam Products Co.

CONTAINERS and CLOSURES

American Can Co. (Tin Cans and Steel Pails)
Anchor-Hocking Glass Corp. (Closures & Bottles)
Continental Can Co. (Tin Cans)
Hazel-Atlas Glass Co. (Bottles and Jars)
National Can Co. (Cans)
Standard Container, Inc. (Cans and Closures)
Sutherland Paper Co. (Packages)
Wilson & Bennett Mfg. Co. (Steel Pails and Drums)

DEODORIZING BLOCK HOLDERS

Clifton Chemical Co.
Fuld Bros.
National Sanitary Chemical Co.

ESSENTIAL OILS

Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer Inc.
Felton Chemical Co.
Firmenich & Co.
Fritzsche Brothers, Inc.
Leghorn Trading Co.
Magnus, Mabee & Reynard, Inc.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Schimmel & Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

INSECTICIDES, SYNTHETIC

Kessler Chemical Co.
Rohm & Haas Co.

(*Continued on page* 124)

Soapmaker: Man with several years' experience in Germany on toilet soaps, tooth pastes, cosmetics, etc., in plant operation, desires position in small factory. For further details, communicate with Box No. 466, care *Soap.*

Expert in Kettle Practice, pure and filled flakes and soap powder, yellow, white bar and toilet soaps; glycerine recovery. Temporary to correct trouble or permanent position. Address Box No. 464, care *Soap.*

Soapmaker, Assistant Soap-boiler: Six years' experience in manufacturing toilet and laundry soap. Best references. Salary moderate. Address Box No. 468, care *Soap.*

Chemist, experienced in the manufacture of polishes, (pastes and self-polishing) soft soaps, shoe dressings, disinfectants, insecticides and many other specialties. Production, research or sales. Address Box No. 471, care *Soap.*

Competent Soap-Maker, master and chemist; at present in charge of small soap plant, desires connection with progressive firm on or near Pacific Coast. Own patent applications and rev. sales-plan. Address Box No. 462, care *Soap.*

Insecticides—Man with number of years' experience in manufacture of household insecticides for well-known company, also in testing materials, fancy products, etc., desires new connection in either agricultural or household insecticide industry where technical knowledge and experience would be of value. Has had experience in sales work, equipped to go into this end of the business. Address Box No. 465, care *Soap.*

Positions Open

Salesman: Man wanted to cover State of New Jersey for old established manufacturer of sanitary products. Liberal commission. After salesman is established, regular drawing account paid. Send complete details. Man need not be necessarily experienced in this line. Address Box No. 467, care *Soap.*

Research Chemist—Fatty acids and related products. Middle West. Give full details, training, positions, salaries, references. Replies kept confidential. Address Box No. 461, care *Soap.*

Miscellaneous

Carpet Beetles, and other living insects for experimental purposes. Reared in quantities. H. Scudder, Entomology Dept. Cornell University, Ithaca, N. Y.

Rex No Rubbing Wax—Outwears most floor waxes—100% carnauba wax content. Private label if desired. Priced low. Rex Paint Co., 219 Congress Ave., New Haven, Conn.

Floor Wax—Not only is it priced below all competitive waxes but an analysis and test will prove its superior qualities as to durability, extreme waterproofness, lustre and non-slipperiness. A product for the most critical buyer of quality and price. Inquiries invited. Fox Lake Chemical Co., Fox Lake, Illinois.

Do You Wish To Sell To India? We specialize in Perfumery and Beauty products and shall be pleased to hear from manufacturers who are anxious to introduce their line in Household and Toilet Soaps to the Indian market. References furnished. Address: S. N. Jhunjhunwalla, Windsor House, P. 14, Bentinck St., Calcutta, India.

Wax—Guaranteed water-proof wax—dries to high lustre. Best buy of the year. Special price to jobbing trade only. Write now for samples and prices. Empire Chem. Products Co., 12 Longworth St., Newark, N. J.

European Firm wants representatives in the U.S.A. for sale of insecticide (Barium Fluosilicate). Address Box No. 460, care *Soap.*

Pyrethrum extract for sale, standard brand, address replies Box No. 480 care of *Soap.*

English Soap and Dentrifice manufacturer offers manufacturing, storage and distribution facilities to American firms opening up in England and British Empire. Write "Box Z.A. 1000" Deacons, Advertising agency, St. Mary Ave., London.

Non-Skid No-Rubbing Wax—A remarkable product. A large board of education reported it less slippery than any other wax. A national chain of stores had it approved by their insurance company. Sample it yourself. Low prices. Twi-Laq Chemical Co., 221 Sullivan St., Brooklyn, N. Y.

Volcanic Ash of all colors and grades; samples and prices upon request. Mid-Co. Products Company, Kansas City, Missouri.

Floor Brushes—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

Complete Soap Plant Equipment for Sale: Proctor soap chip dryer; automatic soap press; wrapping machine: 4 roll stone mills; foot press; plodders 6", 8", 10"; soap boiling kettles; 6 knife chipper; two-way cutting table; frames; filter presses; crutchers; mixers, boilers. Stein Equipment Corp., 426 Broome St., New York City.

Sense Appeal—Texol Self-Polishing Wax is a waxier wax embodying rich luster and an appealing, refreshing odor. All No. 1 Carnauba wax-content. Inquiries invited. Texol Chemical Works, Clinton, Massachusetts.

Raw Material and Equipment Guide

(*Continued from page* 122)

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MACHINERY

J. H. Day Co. (Mixers, Sifters, Mills)
Anthony J. Fries (Soap Dies)
Houchin Machinery Co. (Soap Machinery)
Huber Machine Co. (Soap Machinery)
Ingersoll Steel & Disc. Div. Borg-Warner Corp.
International Nickel Co. (Monel Metal)
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
Koppers Company (Coal Tar Plants, Power Plants, Valves, Castings, Pipe, Tanks)
Proctor & Schwartz (Dryers)
C. G. Sargent's Sons Corp. (Dryers)
Sprout, Waldron & Co. (Mixing, Conveying, etc)
Stokes & Smith Co. (Packing Machinery)
Viking Pump Co. (Pumps)
Wurster & Sanger (Soap, Oil and Glycerin)

MACHINERY, USED

Consolidated Products Co.
Newman Tallow & Soap Machinery Co.

MISCELLANEOUS

American Standard Mfg. Co. (Wax Applicator)
Anchor-Hocking Glass Corp. (Metal Caps)
T. G. Cooper & Co. (Waxes)
Dicalite Co. (Insecticide Carrier, Filtering Materials, Abrasives)
Dobbins Mfg. Co. (Pails, Mop Wringers, etc.)
Dow Chemical Co. (Germicides, Agricultural Insecticides, Fumigants)
Hercules Powder Co. (Pine Oil and Rosin)
Industrial Chemical Sales Div. (Decol. carbon, Chalk)
Innis, Speiden & Co. (Fumigants and Waxes)
Koppers Company (Coal, Coke, Roofing Materials)
Lenape Trading Co. (Waxes)
Pennsylvania Refining Co. (White Oils)
Pylam Products Co. (Lathering Agent)
S. Schwabacher & Co. (Naphthenic Soaps, White Mineral Oils)
Victoria Paper Mills Co. (Paper Accessories)

OILS AND FATS

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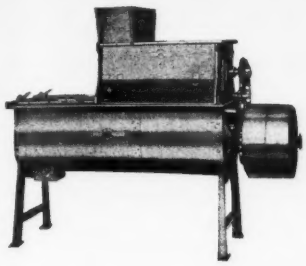

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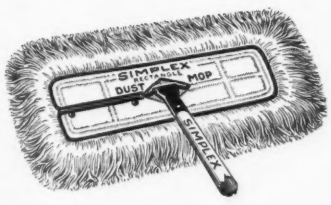

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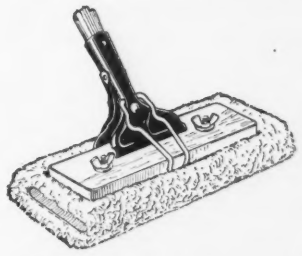

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